TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, [illegible] 1904.

No. 40.

ECLIPSE BICYCLE COMPANY, APPELLANT,

vs.

WILLARD M. FARROW.

APPEAL FROM THE COURT OF APPEALS OF THE DISTRICT OF COLUMBIA.

FILED JUNE 1, 1904.

(19,383.)

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INDEX.

	Page.
Caption	1
Transcript from the supreme court of the District of Columbia	1
Caption	1
Bill of complaint	1
Exhibit A—Contract of sale	4
Demurrer	7
Demurrer withdrawn	8
Answer	8
Replication	11
Supplemental bill	11
Answer to supplemental bill	13
Testimony on behalf of complainant	15
Testimony of H. H. Fulton	15
A. P. Morrow	22
James D. Lasley	26
Willard M. Farrow	28
James L. Skidmore	36
Edward G. Curtis	43
H. P. Doolittle	45
James L. Skidmore (recalled)	58

JUDD & DETWEILER (INC.), PRINTERS, WASHINGTON, D. C., MARCH 3, 1905.

	Page
Complainant's Exhibits W. M. F. 3 to 11, inclusive	60
Subspecification of Willard M. Farrow	60
Letter of examiner, dated October 20, 1896 (rejection)	70
Amendment	71
Letter of examiner, dated September 15, 1897 (rejection)	78
Amendment A	79
Letter of examiner, dated December 2, 1897	79
Drawing	80
Amendment	80
Notice of allowance, dated January 7, 1898	80
Subspecification of Willard M. Farrow	81
Letter of examiner, dated January 22, 1897	87
Amendment	88
Letter of examiner, dated August 12, 1897	93
Amendment A	94
Letter of examiner, dated November 3, 1897	94
November 3, 1897	95
November 3, 1897	96
November 3, 1897	97
Drawings (3)	99
Letter of examiner, dated September 1, 1898	98
Interference letter, dated November 3, 1897	100
Preliminary statement of William A. Phillips	101
Preliminary statements of W. M. Farrow	102
Letter of examiner, dated December 18, 1897	103
Letter of examiner, dated August 5, 1898	104
Interference letter, dated November 3, 1897	105
Preliminary statement of W. A. Phillips	106
Preliminary statement of W. M. Farrow	106
Interference letter, dated December 18, 1897	107
Examiner's letter, dated August 5, 1898	108
Drawings (3) and specification No. 418,142	109
Drawings (2) and specification No. 611,073	115
Decree of June 3, 1899	119
Decree of February 1, 1900	120
Appeal from decree of February 1, 1900	121
Mandate of June 22, 1900	121
Motion for leave to amend answer	123
Affidavit of Harmon H. Fulton	128
Exhibit 1—Letter from J. L. Skidmore to H. H. Fulton	139
Letter to Mr. John Bindley, dated May 21, 1897	140
2—Letter from Jas. L. Skidmore to H. H. Fulton	140
3—Letter from Jas. L. Skidmore to H. H. Fulton	141
4—Letter from H. H. Fulton to Jas. L. Skidmore	141
5—Letter from H. H. Fulton to Jas. L. Skidmore	142
6—Letter from H. H. Fulton to Jas. L. Skidmore	143
7—Letter from H. H. Fulton to Jas. L. Skidmore	143
8—Letter from Jas. L. Skidmore to H. H. Fulton	144
9—Letter from W. M. Farrow to H. H. Fulton	145
10—Letter from H. H. Fulton to Jas. L. Skidmore	145
11—Letter from Jas. L. Skidmore to Alex. P. Morrow	146

Page

Exhibit 12—Letter from F. F. Weston to Jas. L. Skidmore..... 147
13—Letter from H. H. Fulton to Jas. L. Skidmore..... 147
14—Letter from Jas. L. Skidmore to H. H. Fulton..... 148
15—Letter from Jas. L. Skidmore to H. H. Fulton..... 148
16—Letter from Jas. L. Skidmore to H. H. Fulton..... 149
17—Letter from H. H. Fulton to Jas. L. Skidmore..... 150
18—Letter from H. H. Fulton to Jas. L. Skidmore..... 150
19—Letter from Jas. L. Skidmore to H. H. Fulton..... 151
20—Letter from Jas. L. Skidmore to H. H. Fulton..... 151
21—Letter from Jas. L. Skidmore to M. D. Whittier..... 152
22—Letter from H. H. Fulton to Jas. L. Skidmore..... 152
23—Letter from Jas. L. Skidmore to H. H. Fulton..... 153
24—Letter from H. H. Fulton to Jas. L. Skidmore..... 153
25—Letter from Jas. L. Skidmore to H. H. Fulton..... 154
26—Telegram from Skidmore to H. H. Fulton..... 154
27—Telegram from Skidmore to H. H. Fulton..... 155
28—Letter from Jas. L. Skidmore to H. H. Fulton..... 155
29—Letter from Jas. L. Skidmore to H. H. Fulton..... 155
30—Letter from H. H. Fulton to Jas. L. Skidmore..... 156
31—Letter from W. M. Farrow to Mr. Fulton..... 156
32—Letter from Jas. L. Skidmore to H. H. Fulton..... 157
33—Letter from H. H. Fulton to Jas. L. Skidmore..... 157
34—Advertisement..... 158
35—Letter from H. H. Fulton to Jas. L. Skidmore..... 159
36—Letter from H. H. Fulton to Jas. L. Skidmore..... 159
37—Letter from W. M. Farrow to Mr. Fulton..... 160
38—Letter from H. H. Fulton to Jas. L. Skidmore..... 161
39—Letter from H. H. Fulton to Jas. L. Skidmore..... 161
40—Letter from H. H. Fulton to Jas. L. Skidmore..... 161
41—Letter from H. H. Fulton to Jas. L. Skidmore..... 161
42—Letter from H. H. Fulton to Jas. L. Skidmore..... 162
43—Letter from H. H. Fulton to Jas. L. Skidmore..... 163
44—Letter from H. H. Fulton to Jas. L. Skidmore..... 164
45—Letter from H. H. Fulton to Jas. L. Skidmore..... 165
46—Letter from H. H. Fulton to Jas. L. Skidmore..... 165
47—Letter from Jas. L. Skidmore to H. H. Fulton..... 166
48—Letter from H. H. Fulton to Jas. L. Skidmore..... 167
49—Letter from Jas. L. Skidmore to H. H. Fulton..... 167
50—Letter from Jas. L. Skidmore to H. H. Fulton..... 167
Patent Office notices..... 167
51—Letter from Jas. L. Skidmore to H. H. Fulton..... 168
52—Letter from H. H. Fulton to Jas. L. Skidmore..... 169
53—Letter from Jas. L. Skidmore to H. H. Fulton..... 170
54—Letter from W. M. Farrow to Eclipse Bicycle Co..... 171
Affidavit of James L. Skidmore..... 172
Drawing and specification, U. S. patent No. 507,325..... 181
Drawing and specification, U. S. patent No. 485,350..... 183
Drawing and specification, U. S. patent No. 524,068..... 185
Drawings (2) and specification, U. S. patent No. 641,983..... 187
Affidavit of John D. Lasley..... 191
Alexander P. Morrow..... 194

	Page
Affidavit of Leroy Tabor	198
Douglass S. Mackall	199
James L. Skidmore	200
F. Walter Brandenburg	201
Answer to defendant's motion	202
Exhibit A—Letter from Jas. L. Skidmore to H. M. Earle	211
B—Letter from E. V. Shepard to H. M. Earle	211
C—Letter from H. M. E. to Eclipse Bicycle Co	211
D—Stipulation and letter	212
Motion of complainant to amend answer	215
Leave to amend answer on conditions	216
Amended answer	217
Exhibit A—Letter from W. M. Farrow to Eclipse Bicycle Co	226
B—Letter from Eclipse Bicycle Co. to W. M. Farrow	226
C—Letter from H. M. E. to Eclipse Bicycle Co.	226
D—List of patents	227
Special appeal allowed November 6, 1900	228
Mandate of May 27, 1901	229
Auditor's report	231
Testimony taken before auditor	235
Testimony of Henry P. Doolittle	237
George A. Young	242
Henry P. Doolittle (recalled)	247
J. Nota McGill	250
Willard M. Farrow	251
Arthur S. Browne	253
Charles E. Foster	286
Charles E. Foster	310
Henry P. Doolittle (recalled)	312
Exhibits	320
Certified copy of drawing and specification, U. S. patent No. 422,781	321
Certified copy of drawing and specification, U. S. patent No. 520,728	325
Provisional specification and four drawings, English patent No. 295	333
Provisional specification and drawing, English patent No. 16,732.	343
Certificate of Commissioner of Patents, English letters patent No. 597	347
Complete specification and drawing (sheet 2), English patent No. 597	349
Certified copy of drawing and specification, U. S. patent No. 527,571	357
Certificate of Commissioner of Patents, English letters patent No. 4169	361
Provisional specification and four drawings, English patent No. 4169	363
Exceptions to auditor's report	373
Opinion of Justice Hagner	374
Exceptions overruled	380
Auditor's second report	381

	Page
Testimony taken before auditor	383
Testimony of Thomas E. Morehead	384
Henry L. Earle	393
George A. Young	395
David L. Whittier	399
Exhibit E-13—Deed from Eclipse Bicycle Co. to H. H. Fulton *et al.*	411
Exceptions to auditor's report by defendant	413
Cause re-referred to auditor	414
Auditor's third report	414
Objections to hearing by defendant	416
Exhibit A—Decree ratifying and confirming auditor's report	416
Final decree	417
Appeal	418
Penalty of appeal bond fixed	418
Order for citation	418
Citation	419
Memorandum as to deposit in lieu of appeal bond	419
Directions to clerk for preparation of transcript	420
Time to file transcript extended	421
Time to file transcript further extended	421
Clerk's certificate	422
Addition to record per stipulation of counsel	423
Stipulation as to facts, &c	423
Exceptions to report of auditor	424
Motion for rehearing	427
Order granting rehearing	429
Minute entries of argument	431
Opinion	431
Decree	435
Order allowing appeal	435
Petition to recall mandate	435
Minute entry of submission of petition	437
Order denying petition	437
Appellee's objection to approval of bond on appeal	438
Order approving bond	438
Bond on appeal	438
Citation and service	439
Clerk's certificate	440

In the Court of Appeals of the District of Columbia

ECLIPSE BICYCLE COMPANY, Appellant,
vs.
WILLARD M. FARROW.
} No. 1351.

a Supreme Court of the District of Columbia.

WILLARD M. FARROW, Complainant,
vs.
THE ECLIPSE BICYCLE COMPANY, Defendant.
} No. 19095. In Equity.

UNITED STATES OF AMERICA,
District of Columbia, } ss:

Be it remembered, that in the supreme court of the District of Columbia, at the city of Washington, in said District, at the times hereinafter mentioned, the following papers were filed and proceedings had, in the above entitled cause, to wit:—

1 *Original Bill.*

Filed February 25, 1898.

In the Supreme Court of the District of Columbia, Holding an Equity Term.

WILLARD M. FARROW, Complainant,
vs.
THE ECLIPSE BICYCLE COMPANY, Defendant.
} Docket 44. In Equity. Number 19095.

Your complainant, Willard M. Farrow, respectfully represents as follows:

1. That he is a citizen of the United States and a resident of the District of Columbia and brings this suit in his own right.

2. That the defendant, The Eclipse Bicycle Company, is a corporation, duly incorporated under the laws of the State of New York, with its central offices at Elmira, New York, and having an office and doing business in the District of Columbia.

3. That on or about the month of November, 1895, the complainant conceived an invention of a bicycle device, being an automatic brake and coaster, and fully described in application for letters

patent filed in the United States Patent Office July 24, 1896, and December 1st, 1896.

4. That during the year 1897, some time before the month of June, the said invention was brought to the attention of the defendant, the said Eclipse Bicycle Company, by your complainant, and that two representatives of that company, viz., J. D. Lasley and W. H. Fulton, the latter being the president of said company, began negotiations with your complainant for the purchase from him of all of his right, title, and interest in said invention under the said applications for patent, and on or about the 5th day of June, A. D. 1897, your complainant entered into an agreement with the said company, through its said president, W. H. Fulton, for the sale of his said right, title, and interest in said invention, a copy of said agreement of sale, assigning said interest, being on file at the United States Patent Office and a duplicate of the original being hereto attached, marked Exhibit "A," which it is prayed will be read and considered as a part of this bill; and your complainant received twenty-five hundred dollars ($2,500.00) on account of the said sale, but avers that there is due him from the defendant a large balance according to the terms of said agreement between them.

5. In compliance with the terms of said contract the defendant began the manufacture and sale of a large number of the said brakes and the advertisement of same, designating the said device as "the Farrow automatic brake and coaster," one of the said advertisements being hereto attached and marked Exhibit B.

6. Your complainant avers that, notwithstanding the terms of the said agreement and the fact that its performance had been thus partially begun, one Morrow, a member of said company and the general superintendant or manager thereof, connived and designed to defeat the interest of your complainant as set forth in said agreement, and on or about the 15th day of July, 1897, filed an application in the United States Patent Office for letters patent on a device in effect the same as that purchased by the defendant from your complainant, accomplishing the same result, and being a mere mechanical equivalent therefor, and that on the same day the said Morrow assigned to the said W. H. Fulton, the president, as aforesaid, of the defendant corporation, a one-half (½) interest in his alleged invention, same being duly recorded in the United States Patent Office, and that the defendant, the said Eclipse Bicycle Company, began the manufacture and sale of the device designated by them as the "Morrow brake and coaster," one of their advertisements of which is hereto attached, marked Exhibit "C," and that a large number of said devices have been manufactured and sold by the defendant company.

7. That although the defendant specifically contracted and agreed to protect and defend the patent rights of your complainant and to "use due business diligence in the manufacture and sale" of his device, they have utterly failed so to do, but have substituted therefor another, the "Morrow brake," being, as aforesaid, a mere mechanical equivalent, and have by their failure to take the proper

steps for the prosecution and the protection of the patent rights and through their action regarding the patent applied for on the so-called "Morrow brake" caused your complainant great loss.

2 8. That your complainant has requested statements as to the number of the said devices made and sold by the defendant, but has received no reply thereto, although such statements were to have been furnished at certain periods mentioned in the third paragraph of said agreement.

9. Your complainant charges upon information and belief that a large number of the Farrow automatic brake- and coasters have been manufactured and sold by the defendant, and also that a large number of similar devices substituted therefor have been and are being manufactured and sold by them, and the complainant avers that he has no means of ascertaining the number of either of said devices that have been manufactured and sold, and is without the means of learning the condition of his patent rights or of protecting same except by discovery of said defendant, and the complainant therefore prays that the defendant, the said Eclipse Bicycle Company, may disclose in its answer hereto the number of both of said devices manufactured, the number sold, and the number held by said company.

10. Your complainant further avers that under the agreement between him and the defendant the Eclipse Bicycle Company became his agent and partner for the purpose of procuring and protecting the said patents applied for and for manufacturing and selling the said device, as agreed, but that notwithstanding the relations that existed between your complainant and the defendant they have sought to suppress the use of his device and have allowed his patent rights to become involved; and your complainant claims that although some change, elaboration, or improvement has been made by the defendant on his original invention that any advantages that have or may accrue therefrom inure to the benefit of both your complainant and the defendant according to the terms of said agreement by them made.

Therefore, being without other remedy, the complainant prays:

1. That the writ of subpœna may issue out of — under the seal of this honorable court, directed to the said Eclipse Bicycle Company, and commanding them to appear and answer the exigencies of this suit.

2. That the defendant may be required to fully account, under the direction of this honorable court, to the complainant, in accordance with the terms of the agreement between them, for the number of the original "Farrow brakes" manufactured, and the number sold, and for the numbers manufactured and sold of the device substituted by the defendant for the same, and to pay to your complainant such amount as may be found to be due him.

3. That any improvement or elaboration in the original device, the subject of the aforementioned agreement by and between the defendant and your complainant, may be declared by this honorable court to have been made by the defendant as the agent and

partner of your complainant for the benefit of the partnership under the said agreement or contract, and that your complainant
3 may have such other and further relief as the nature of the circumstances of the case require and to this honorable court shall seem proper.

HENRY M. EARLE,
Solicitor for Complainant.

The defendant to this bill is The Eclipse Bicycle Company.

CITY OF WASHINGTON, }
District of Columbia, } ss:

Willard M. Farrow, upon oath, says that he is the complainant in the above-entitled cause; that he has read the foregoing bill and knows the contents thereof; that the facts therein stated upon personal knowledge are true, and that those stated upon information and belief he believes to be true.

WILLARD M. FARROW.

Subscribed and sworn to before me this 25 day of February, A. D. 1898.

J. R. YOUNG, *Clerk,*
By L. P. WILLIAMS, *Ass't Clk.*

"EXHIBIT A."

Whereas Willard M. Farrow, of Washington, District of Columbia, has invented *certain improvements* in bicycles and like vehicles, pertaining to automatic mechanism for coasting and braking, *for which* he has made applications for U. S. letters patent, said applications having been filed respectively July 24th, 1896 (serial No., 600,359) and December 1st, 1896 (serial No., 614,140), and *for which* he intends hereafter to file *additional* applications, and

Whereas Eclipse Bicycle Company, a corporation duly incorporated under the laws of the State of New York, and doing business at Elmira, in said State, is desirous of acquiring the *entire* right, title and interest in and to said inventions *as described* in the *above-identified* applications, and *any letters patent* that *may* be *issued thereon*, and *in and to all improvements that may* hereafter be made *by the said Willard M. Farrow* on said inventions.

Now, therefore, be it known that in and for the consideration of one dollar and other valuable considerations, the receipt whereof is hereby acknowledged, the said Willard M. Farrow hereby sells, assigns and sets over unto Eclipse Bicycle Company *his entire right, title* and interest in and to *the inventions* in bicycles *as fully described and claimed in the applications* above referred to, and *any letters patent* that *may be* issued therefor, and in and *to all future improvements*

thereon unto the said Eclipse Bicycle Company, its successors and assigns, subject to the following stipulations and agreements, to wit:

First. The said Eclipse Bicycle Company is to pay to the
4 said Willard M. Farrow the sum of one thousand dollars ($1,000) in cash at the time of signing this instrument, the further sum of five hundred dollars ($500) within thirty days from the date of the instrument; a further sum of five hundred dollars ($500) within sixty days from the date of this instrument, and a further sum of five hundred dollars ($500) within ninety days from the date of this instrument, in all, the sum of twenty-five hundred dollars ($2,500) as advanced payments on the royalties as hereinafter provided for.

And the said Eclipse Bicycle Company hereby agrees to pay to the said Willard M. Farrow, his heirs or assigns, a royalty on all the devices made and sold, embodying the invention above referred to as follows, to wit:

On the first ten thousand the sum of fifty cents each; on the second ten thousand twenty-five cents each; on the third ten thousand fifteen cents each, and for each and every one sold over the thirty thousand above provided for, ten cents for each, provided that not less than fifty thousand shall be made and sold per annum after the manufacture and sale of the first thirty thousand above provided for.

Second. And it is further agreed on the part of the said Eclipse Bicycle Company that in case less than fifty thousand of the said inventions are not made and sold in each and every year after the manufacture and sale of the first thirty thousand above referred to, the royalty on each shall be fifteen cents instead of ten cents, as provided for in the preceding paragraph.

Third. And it is further agreed by and between the parties to this instrument, that the said Eclipse Bicycle Company shall make returns to the said Willard M. Farrow, under oath, on the first days of March, June, September and December of each year, as to the exact number of devices made and sold by the said Eclipse Bicycle Company or others, and shall pay to the said Willard M. Farrow, the full sum due as royalties, as herein provided for, within fifteen days from the date of said return. And it is further agreed by and between the parties to this instrument that in case of default on the part of the said Eclipse Bicycle Company in the payment of any part of the moneys or royalties above specified, for more than sixty days after the same shall have become due and payable, the title to said invention and all letters patent based thereon shall revert to the said Willard M. Farrow and his legal representatives.

Fourth. And it is further agreed by and between the parties to this instrument, that if the said Eclipse Bicycle Company shall hereafter deem it advisable to secure protection by letters patent in any foreign country or countries for the inventions hereinbefore referred to, the said Willard M. Farrow will execute all necessary papers for that purpose, the said foreign patents to be owned by the parties hereto in the proportion of one-fourth to the said Willard M. Farrow,

and three-fourths to the said Eclipse Bicycle Company, all expenses and costs incident to procuring such foreign protection to be paid for, in full, by the Eclipse Bicycle Company.

Fifth. And it is further agreed that the said Eclipse Bicycle Company shall defend said invention against piracy or infringement, by bringing proper suits at law against all who may without authority engage in the manufacture or sale *of the same*, and the said Eclipse Bicycle Company agrees to use due business diligence in the manufacture and sale of *the devices embodied in said letters patent*, and push the sale by all proper and legitimate enterprise, otherwise the title in the invention reverts back to the said Willard M. Farrow.

Sixth. That the said Willard M. Farrow, hereby agrees that when applications for *letters* patent in the foreign countries are made, that *he* will immediately assign the same over to the said parties of the second part, so that they shall have full authority to dispose of said patents at such price as they may deem best, and if so sold or disposed of, one-fourth of the net proceeds is to be delivered and paid over to said Farrow. Should the parties of the second part not make proper effort to dispose of said patents within a reasonable time, and if such are not sold within two years from the dates of such foreign patents the said parties of the second part hereby covenant and agree to surrender the same to said Farrow, without further cost to him.

Seventh. And it is further agreed by and between the parties hereto, that in case the said Willard M. Farrow, for any reason fails to procure letters patent of the United States for the improvements above referred to, the parties of the second part shall be relieved from the payment of all royalties from and after the date of final adverse action of the Patent Office on the application or applications for patents for said improvements.

In testimony whereof the parties above named hereunto set their hands and seals this 5th day of June, 1897.

ECLIPSE BICYCLE CO.
H. H. FULTON, *President.*
WILLARD M. FARROW.

Witnesses:

D. L. WHITTIER.
M. M. BANKS.

Witnesses to W. F. Farrow's signature:

CARRIE L. ACKER.
JAS. L. SKIDMORE.

6 *Demurrer to Original Bill.*

Filed April 30, 1898.

In the Supreme Court of the District of Columbia, Holding a Special Term. In Equity.

WILLARD M. FARROW
vs.
ECLIPSE BICYCLE COMPANY. } Equity. No. 19095.

The demurrer of the defendant to the original bill filed in this cause.

This defendant, by protestation, not confessing or acknowledging all or any of the matters and things in the said bill of complaint contained to be true in manner and form as the same are therein set forth, doth hereby demur thereto, and for causes of demurrer shows:

1. Complainant has not in and by his said bill stated such a case as does or ought to entitle him to any such recovery or relief as is thereby sought and prayed for from or against said defendant.

2. The bill is multifarious.

3. Complainant has a full, complete, and adequate remedy at law, so far as the alleged breach of the contract set forth is concerned.

4. Wherefore, and for divers other errors and imperfections, this defendant demands the judgment of this honorable court whether it shall be compelled to make any further or other answer to the said bill or any of the matters or things therein contained, and prays to be hence dismissed with its reasonable costs in this behalf sustained.

MACKALL & MAEDEL,
Solicitors for Defendant.

I do hereby certify that in my opinion the above demurrer is well founded in law.

D. S. MACKALL.

CITY OF WASHINGTON, *District of Columbia,* } *ss:*

I, J. D. Lasley, agent of said defendant company, do solemnly swear that the above demurrer is not interposed for delay.

J. D. LASLEY.

Subscribed and sworn to before me this 30th day of April, A. D. 1898.

HENRY STEWART, JR.,
Notary Public.

[SEAL.]

7 *Order Withdrawing Demurrer, &c.*

Filed July 25, 1898.

In the Supreme Court of the District of Columbia, Holding a Special Term. In Equity.

WILLARD M. FARROW
vs.
THE ECLIPSE BICYCLE CO. } In Equity. No. 19095.

It is hereby stipulated and agreed between counsel for the complainant and defendant as follows:

1. That the demurrer filed in this cause shall be formerly withdrawn without prejudice and the defendant shall file its answer forthwith.

2. That all grounds of demurrer shall be reserved by the defendant, with the right to insist and rely thereon at the hearing of this cause to the same extent as though the hearing was on demurrer.

HENRY M. EARLE,
Solicitor for Compl't.
MACKALL & MAEDEL,
Solicitors for Def'ts.

To the clerk:

Please enter demurrer in this cause withdrawn in pursuance of foregoing stipulation.

MACKALL & MAEDEL,
Attorneys for Defendant.

Answer of Defendant.

Filed July 25, 1898.

In the Supreme Court of the District of Columbia, Holding a Special Term. In Equity.

WILLARD M. FARROW
vs.
THE ECLIPSE BICYCLE CO. } In Equity. No. 19095.

The answer of the defendant to the original bill exhibited against it in this cause respectfully shows unto this honorable court as follows:

This defendant, now and at all times hereafter saving to itself all and all manner of benefit or advantage of exception or otherwise that can or may be had or taken to the many errors, uncertainties,

and imperfections in the said bill contained, for answer thereto, or to so much thereof as this defendant is advised it is material or necessary for him to make answer to, answering, saith:

1 & 2. The defendant admits the allegation of the first and
8 second paragraphs of the original bill filed in this cause to be substantially true.

3. The defendant denies that the complainant was the inventor of the alleged bicycle device described in the application for letters patent referred to in the 3rd paragraph of said bill; it admits the filing of the application by the complainant, but avers that no patents were ever granted to the complainant; on the contrary, the claims made by the complainant were rejected by the United States Patent Office.

4th. The defendant admits the execution of the agreement referred to in the fourth paragraph of said bill, but avers that the construction of said agreement is a question of law to be determined by the court. It admits the payment of a large sum of money to the complainant under said agreement, to wit, the sum of $2,500.00, and this defendant denies that it is indebted to the complainant in any further or other sum of money whatever; on the contrary, it avers that there was and continues a total failure of consideration for said agreement, the complainant's claims in connection with said alleged inventions having been rejected, as aforesaid.

5th. This defendant admits the manufacture and sale by it of a number of the said so-called brake devices, but denies any liability or indebtedness to the complainant by virtue thereof.

6th. The defendant admits that one Morrow has filed an application in the United States Patent Office for letters patent for a bicycle brake, but denies that said Morrow made said application for the purpose of defeating in any way the interest of the complainant, and denies that there was any connivance or design on the part of said Morrow, indirectly or in connection with the defendant or its officers or agents, for such purpose, and denies that the alleged invention of said Morrow is in effect the same as the alleged invention of the complainant, or that it is a mere mechanical equivalent therefor. The defendant admits that it has acquired an interest in good faith in the alleged invention of said Morrow and is engaged in the manufacture and sale thereof.

7th. The defendant denies each and all of the allegations of the 7th paragraph of said bill, and avers that it has done all that this defendant was obliged to do by virtue of said agreement with reference to protecting and defending the complainant's alleged patent rights, and denies that the complainant has sustained any loss, and avers that even if the complainant had sustained any such loss he has ample remedy at law.

8th. The defendant denies that the complainant is entitled to demand or receive from it statements, in view of the total failure of the consideration for said agreement.

9th. In answer to the 9th paragraph of said bill, the defendant says it is absolutely untrue that the complainant is without means

of learning the condition of his alleged patent rights or of protecting the same; that, on the contrary, the complainant in fact knows the condition of his alleged patent rights, and further knows
9 that his claims made in connection therewith were rejected by the United States Patent Office, and he denies that the complainant is entitled to call upon or to require any discovery from this defendant with respect to the sale of said bicycle brakes.

10. This defendant denies that by virtue of said agreement it became the partner or agent of said complainant in respect of the matters alleged in the said bill or any of them, and this defendant further denies and says it is untrue that it has sought to injure alleged rights of complainant in any way, and denies specifically that it has done or failed to do anything to involve or impair the complainant's alleged rights, and this defendant denies that the complainant has any rights or interest whatever in the alleged claims for letters patent contained in the application of the said Morrow and still pending before the United States Patent Office.

And this defendant, further answering, says that it is advised and believes that by reason of the failure of the said Farrow to procure letters patent for his alleged invention and the rejection of his claims therefor as contained in his said application there has resulted a total failure of the consideration for said alleged agreement, and that it is thereby relieved from all responsibility and accountability to the complainant under said agreement.

And this defendant, as further defense to this suit, relies and insists upon the special matters of defense set forth in its demurrer filed in this cause.

And, having fully answered, this defendant prays to be hence dismissed with its reasonable costs in this behalf sustained.

ECLIPSE BICYCLE CO.,
By J. D. LASLEY, *M'g'r.*

Subscribed and sworn to before me this 20th day of July, A. D. 1898.

LUCAS P. LOVING,
[SEAL.] *Notary Public, D. C.*

MACKALL & MAEDEL,
Sol'rs for Def't.

Replication.

Filed August 8, 1898.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW, Complainant,
vs.
THE ECLIPSE BICYCLE COMPANY, Defendant. } In Equity. No. 19095.

The complainant hereby joins issue with the defendant.

HENRY M. EARLE,
D. W. BAKER,
JOHN C. GITTINGS,
Solicitors for Complainant.

10 *Supplemental Bill of Complaint.*

Filed September 7, 1898.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW, Complainant,
vs.
THE ECLIPSE BICYCLE COMPANY, Defendant. } In Equity. No. 19095.

By leave of the court heretofore had and obtained, the complainant brings this his supplemental bill of complaint and complains as follows:

1. That since the filing of the original bill of complaint in this cause, to wit, on the twenty-fifth day of February, A. D. 1898, your complainant has applied to the United States Patent Office to learn the status of his applications for letters patent upon a device described in his original bill of complaint, and all information whatsoever in regard to same has been refused.

2. That upon the consummation of the sale of your complainant's entire right, title, interest, and claim in said invention, described in his application for letters patent (as heretofore set forth in his original bill of complaint), that The Eclipse Bicycle Company, the defendant herein, caused an assignment of your complainant's application to be made, assigning said invention before mentioned to the said defendant company from your complainant; which said assignment was duly executed by your complainant at the instance of the defendant company, as stated in the original bill of complaint, and was by them, the said company, filed in the United

States Patent Office; that your complainant was further required by the said defendant company to execute and did execute a power of attorney to one Skidmore, the attorney for the said defendant company, therein revoking a power of attorney previously given to his own attorney for the purpose of permitting the said defendant company to prosecute the applications for letters patent by him to them assigned, as aforesaid, and that having so assigned his rights under said applications, he was therefore, under its rules, no longer recognized by the United States Patent Office nor permitted to prosecute his patent.

3. That the said defendant company undertook to prosecute the claims for letters patent under the aforesaid applications itself, but no patent has ever been issued, and your complainant is informed by prominent patent attorneys, and he verily believes the same to be true, that through the failure of the defendant company to properly prosecute the said claims for letters patent that his claims will be rejected or his applications allowed to lapse, upon points easily obviated; and this your complainant believes to be in furtherance of the scheme of the said defendant company to evade its obligations to him under the agreement attached to and made a
11 part of your complainant's original bill of complaint and to substitute for his invention the one now being exploited by the said defendant company, the same being substantially a mere reproduction in a somewhat altered form of your complainant's said invention, and accomplishing the same purposes.

Wherefore your complainant, being without other relief in the premises, prays as follows:

1. That the United States writ of subpœna may issue out of and under the seal of this honorable court, directed to the defendant, The Eclipse Bicycle Company, and commanding it to appear in this court on a day therein named and answer the exigencies of this suit.

2. That any improvement, alteration, or elaboration in the original device, the subject of the aforesaid agreement by and between the defendant company and your complainant, may be declared by this honorable court to have been made by the defendant as the agent and partner of your complainant for the benefit of the partnership under said agreement or contract; that your complainant may have such other and further relief as the nature of the circumstances of the case require and to this honorable court shall seem proper.

WILLARD M. FARROW,
By JNO. C. GITTINGS, *Att'y.*

The defendant to this bill is The Eclipse Bicycle Company.

HENRY M. EARLE,
Solicitor for Complainant.

Endorsed: Let this bill be filed, the subpœna to be returned in ten days. W. S. Cox, J.

Answer of Defendant to Supplemental Bill.

Filed November 21, 1898.

In the Supreme Court of the District of Columbia, Holding a Special Term in Equity.

WILLARD M. FARROW
vs.
THE ECLIPSE BICYCLE CO. } In Equity. No. 19095.

The answer of the defendant to the supplemental bill exhibited against it in this cause respectfully shows unto this honorable court as follows:

This defendant, now and at all times hereafter saving to itself all and all manner of benefit or advantage of exception or otherwise that can or may be had or taken to the many errors, uncertainties, and imperfections in the said bill contained, for answer thereto, or to so much thereof as this defendant is advised it is material or necessary for him to make answer, answering, saith:

12 1. The defendant can neither admit or deny the allegations of the first paragraph of the supplemental bill filed in this cause, but avers, whether said allegations be true or not, they are immaterial to the issues in this cause; and further answering said paragraph of said bill, this defendant avers that the complainant is fully acquainted with the status of his said application for letters patent, and is now and has at all times been fully informed by the patent attorney in charge of said patents as to their status.

2. This defendant upon information and belief admit- the allegations of the second paragraph of said bill, but avers that said allegations are immaterial to the issues in this case.

3. In answer to the third paragraph of said bill, this defendant admits that through its attorneys it undertook to prosecute the claims for letters patent in behalf of the complainant, and avers that it did through its attorneys prosecute said claims with due diligence until it became apparent that the claims made by the complainant could not be maintained, except possibly as to some limited and immaterial and valueless claims. This defendant has no knowledge of what information the complainant has received from prominent patent attorneys. but he denies that there was any failure or neglect on the part of the defendant company to properly prosecute the said claims for letters patent, and this defendant further denies that said claims have been or will be rejected by reason of any neglect or failure on the part of this defendant; on the contrary, this defendant avers the truth to be that it prosecuted through its attorney said claims diligently and skillfully until such time as it became apparent, after the complainant's claims were involved in interference, that the valuable and substantial claims made by

the complainant would be rejected by the Patent Office, and that all of said substantial and valuable claims were in fact rejected by the Patent Office, and this defendant denies and says it is absolutely untrue *and* that the defendant is a party to a scheme to evade its obligations to the complainant under the said agreement attached to the original bill filed in this cause; that its president acquired an interest in the invention made by one Morrow in good faith and for valuable consideration and without any intention in any way to defraud the complainant, as intimated in said paragraph, and this defendant avers that a patent has been duly issued to the said Morrow covering his said invention, and that this defendant or its officers were, as it believes, at perfect liberty to secure any interest in said invention, if they so desired, without in anywise affecting the said agreement between the complainant and the defendant corporation, and this defendant avers that the fact that Morrow assigned to *W.* H. Fulton (the president of this defendant company) an interest in his said invention is immaterial and irrelevant to the issues in this case, but, on the contrary, is a legitimate and entirely independent transaction between the said parties with respect to which the complainant and his contractural relations with this de-
13 fendant has nothing whatever to do; and having fully answered, this defendant prays to be hence dismissed with its reasonable costs in this behalf sustained.

ECLIPSE BICYCLE CO.,
By H. H. FULTON, *Pres't.*

MACKALL & MAEDEL,
Sol'rs for Def't.

I, H. H. Fulton, being first duly sworn, do upon oath depose and say that I have read the aforegoing answer signed by the Eclipse Bicycle Company by me as its president, and know the contents thereof; that the facts therein stated upon my personal knowledge are true, and those stated upon information and belief I believe to be true.

H. H. FULTON.

Subscribed and sworn to by me this 17th day of November, A. D. 1898.

[SEAL.] FRANCIS E. BALDWIN,
Notary Public.

Deposition on Behalf of Complainant.

Filed November 11, 1898.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
against
THE ECLIPSE BICYCLE COMPANY. } Number 18499. Equity.

Whereupon H. H. FULTON, a witness called by and on behalf of the complainant, being first duly sworn, is examined by Mr. Earle.

Q. Please give your full name, occupation, and residence. A. H. H. Fulton; Elmira, N. Y.; occupation, manufacturer.

Q. What is your connection with the Eclipse Bicycle Company? A. President of the company.

Q. Were you president of the company in June, 1895? A. Yes, sir.

Q. Ever since it has run? A. Yes, sir; I am stockholder of the company.

Q. Do you know Mr. Willard M. Farrow? A. I know Farrow. I don't remember his first name.

Q. Of Washington? A. Yes, sir.

Q. Where and when did you first meet him? A. I think it was probably a year ago that we made a written contract with him.

Q. When did you first meet him? A. At that time.

Q. Do you know it was about June, '95? A. I presume
14 it was.

Q. Did you have any conversation with Mr. Farrow before making the agreement that you speak of? A. Yes, sir.

Q. Concerning a bicycle devise which he claimed to be the inventor of? A. Yes, sir.

Q. Where were these conversations held, and who was present? A. I don't remember. The whole thing is so vague to my memory that I am afraid my testimony won't be very good without something to lead me up to it. If I had the contract here I could tell more about it. I think it was a royalty contract we had with him.

Q. Do you remember if you first met him in Washington? A. I did. The only time I saw him was in Washington.

Q. Do you know how often you saw him before you made a contract with him? A. No, sir; I do not.

Q. Are you familiar with the conditions on which this suit is based? A. No, sir.

Q. Have you ever read the bill or answer? A. No, sir; I never have.

Q. Do you know whether the answer filed is correct or not? A.

If there has been an answer filed I presume it was filed by our attorneys, and I have confidence in them that it is right.

Q. But you don't know personally that it is? A. No, sir; I don't know as I do.

Q. Do you know who prepared the agreement that you and Mr. Farrow signed? A. No, sir; I don't remember that. The whole thing has gone out of my mind. The invention that Farrow claimed to have been originator of was so inferior that we never had anything to do with it except to put out just a few machines. He didn't have a patent; has not got a patent now, as I understand it. He misled us in his representations, and we dropped the whole matter, and I have not thought anything about it since.

Q. Have you an attorney in Washington, a patent attorney? A. Yes, sir.

Q. What is his name? A. That is, we have a man there who takes out our patents; he is not known as one who would go into court and contest a case; he is a solicitor of patents.

Q. Do you know if he prepared the contract? A. No, sir; I do not remember.

Q. Did you have any examination as to the patentability of this devise before you made the contract? A. No, sir; we did not. Mr. Farrow claimed he was the original inventor of that idea embraced in his application for a patent, and, as I understand it since, it was thrown out because he was not the original inventor. There were two patents preceding his.

15 Q. Did you have any conversation with your patent attorney before you made this agreement? A. Certainly.

Q. As to its patentability? A. I don't remember, but I presume I would naturally ask him if he thought that claim would be allowed. I remember his going over the claims with Farrow.

Q. Did you have any conversation with Mr. Skidmore? A. Certainly.

Q. About the patentability of this devise of Farrow's before you made the agreement to purchase of him? A. The only way I could answer that would be that I presume I would naturally ask him whether Farrow's claim would be allowed.

Q. Did you get any report from any one as to the condition of the application of his patent at that time? A. I don't remember any report.

Q. Was this agreement between you and Farrow recorded, do you know? A. I don't remember.

Q. What became of it after you signed it? A. I don't remember.

Q. Do you know if you left it with your attorney there? A. No, sir; I don't remember anything about it.

Q. What action was taken by your company relative to the manufacture of this devise after you made the agreement? A. Immediately after making the agreement we proceeded to put that devise of his on the market, and found so many objections to it, and learned shortly afterwards that Farrow was not the original inventor

of it, and that his claim had been thrown out by those who were prior inventors, and we gave it up afterwards.

Q. Can you give me any idea as to how shortly afterwards it was? You made the agreement the early part of June and shortly after that you stopped the manufacture? About what time? A. I don't remember when we began the manufacture and when we stopped.

Q. Do you think it was a month? A. I don't remember; in fact, I was so certain that we never manufactured any that I said to our superintendent a short time ago that we never sent out a wheel with that break attachment. He said I was mistaken, and, come to look it up, I found we had sent out 61 machines.

Q. What action was taken by your company regarding the advertising the devise and the exporting of it? A. I don't remember any.

Q. Do you remember if you advertised it at all? A. No; I do not remember.

Q. If you had advertised it, would you have been apt to know it at that time; would it be a part of the business that would
16 come under your supervision? A. I knew a devise of that kind wouldn't be advertised without my consent.

Q. You may have known it at the time, but you don't remember? A. Yes, sir.

Q. You don't remember about the time you discontinued manufacturing it? A. No, sir.

Q. Will you state briefly as you can why it was you stopped manufacturing it? A. We stopped because it was impracticable; wasn't patented by Farrow; had no protection for putting it on.

Q. You thought, as president of the company, it was not prudent to manufacture a devise in which you couldn't get a patent? A. The reason we discontinued was it was not a practical devise; the trade wouldn't have it.

Q. When did you first know the invention was made by Mr. Morrow? A. What invention?

Q. Bicycle. A. He has made a dozen.

Q. The one that is somewhat similar to this one? A. It is not similar in any respect.

Q. When did you know of the devise made by Mr. Morrow which is in use by the Eclipse machines? A. We have several.

Q. The Morrow break and coaster—when did you first know of it? A. At the time it was invented.

Q. Do you remember about when it was? A. I don't remember without looking at the books. I have no idea. It was some time after this contract of Farrow with me.

Q. Do you know how long before you made the contract with Mr. Morrow regarding this devise that you knew it? A. What contract do you refer to with Mr. Morrow?

Q. Contract between Mr. Morrow and Mr. Fulton which Mr. Morrow has signed. A. There has been no such contract.

Q. Has your company any interest in the Morrow devise? A. Yes, sir.

Q. Have you an agreement in writing with Mr. Morrow concerning that? A. No, sir.

Q. Have you yourself an agreement? A. No, sir.

Q. Who is the owner of the Morrow break & coaster?

Mr. COLLIN: To that I object as immaterial, incompetent, and irrelevant and inadmissible under the pleadings.

17 A. It is manufactured exclusively by the Eclipse Bicycle Company, and I think the patent is in Mr. Morrow's name and mine, but he has a good many patents. Which one do you refer to?

A. The Morrow break and coaster. A. He has several.

Q. The one you are using. A. We have 5 or 6 different ones on the wheel today.

Q. Do you know of a contract made between you and Mr. Morrow on July the 15th, 1897? A. I don't remember; what contract do you refer to?

Q. The contract in which he sold to you ½ interest in the Morrow break & coaster. A. No, sir; I have no such contract.

Q. When did it first become known to you that there was a total failure of consideration for the Farrow contract as alleged in the answer filed by your company?

Mr. COLLIN: To that I object as calling for a fact not proven, irrelevant, immaterial, and incompetent, inadmissible under the pleadings.

A. I don't know when that was.

Q. Would you be able to say if it was more than a month or two months from the time of making the contract that you found that out? A. I have no recollection of the dates.

Q. At the time you found that out did you immediately stop manufacturing the devise? A. Found out what?

Q. That there was a total failure of consideration to your company, and Farrow couldn't get a patent on it as he promised. A. I don't remember as to that.

Q. Is Mr. Morrow an officer in your company? A. No, sir.

Q. What is his relation to the company? A. He is superintendent.

Q. Was he the superintendent on June the 5th, 1897? A. Yes, sir.

Q. Are your relations with the superintendent of the company such that you would be apt to see him frequently and talk with him of matters of this kind? A. Yes, sir.

Q. Did you ever talk to him of the Farrow invention before you made the agreement? A. No, sir.

Q. Do you know, before you made the agreement, that Mr. Morrow's attention had been called to the Farrow devise?

Mr. COLLIN: I object to that as incompetent and immaterial, irrelevant, and inadmissible under the pleadings.

A. I don't remember.

Q. You don't remember whether you knew that or not? A. No, sir.

18 Q. Did you ever receive any request from Farrow for a statement from the company in accordance with the terms of his agreement with you? A. I don't think so. I don't remember of having seen any.

Q. Ever receive a letter from Mr. Farrow's attorney requesting the statement concerning this agreement? A. I think I received a letter from some one alleging that he was Farrow's attorney, but the nature of it I have forgotten.

Q. Do you remember or not whether you answered that letter? A. I do not think I answered that letter.

Q. Do you remember or not whether you ever answered any letter of Farrow regarding this matter? A. No, sir; I do not.

Q. Did you receive or request at any time a report from your patent attorney as to his progress in the prosecution of this patent? A. I don't remember.

Q. Did you have any knowledge of the progress that was being made concerning the prosecution of these applications which you purchased during their prosecution? A. No, sir; I don't remember. We very seldom heard anything from him in reference to the patent.

Q. After you made the agreement with Farrow what directions did you give concerning the prosecution of the applications mentioned in the agreement? A. I don't remember.

Q. Do you remember what arrangement, if any, you made after making your agreement with Farrow, having in view the proper prosecution of the applications mentioned in the agreement? A. No, sir; I do not.

Q. From the agreement it appears that the Eclipse Company purchased all the right, title, and interest in his applications for letters patent on his devise; it also appears that the company was to take complete control of its manufacture and sale and was to push the business by all proper means and enterprise and pay Farrow a certain royalty; this being the case, will you state whether or not it was the intention of the company to obtain, if possible, letters patent on his applications purchased by them? A. In the first place, I don't think we purchased his patent; the contract didn't so stipulate. We agreed to make his devise on royalty and pay him a certain sum for each machine, if I remember correctly. We paid him advance royalty for what I think must have been several thousand machines, and so far made and sold 61 only. Farrow's representation was that he was the original inventory of this devise, and it was our desire to secure as broad patents as possible.

Q. Will you state what is meant by the word piracy as used in the fifth paragraph? A. Fifth paragraph of what?

19 Q. Of the agreement. A. I suppose that is a phrase used by a lawyer that will explain itself. I would presume that a

pirate of a patent is one who would appropriate a patent that didn't belong to him, and I think that is just what Farrow did.

Q. At the time that you gave up manufacturing this devise, for the reasons you previously stated, did you notify your patent attorney in Washington so that he would discontinue prosecuting the patent? A. Having paid Farrow a royalty on a certain number of thousand of these breaks, and made only 61 of them, we were not under any obligations, in my opinion, to notify him or any one else about anything.

Q. I didn't say Farrow; did you notify your patent attorney so he would not keep on prosecuting the patents after you gave up the matter? A. I don't remember.

Q. Do you remember whether your company took any action in reference to securing foreign patents? A. I think we did.

Q. Do you remember what that was? A. No, sir; I do not.

Q. Do you know of any patent before ever being allowed on either of the Farrow applications? A. I understand, I don't know from what source, that his claims were all thrown out.

Q. No claims whatever were allowed him for patents? A. That is what I understand, that he was not the inventor; several other men were ahead of him, and the whole thing was abandoned.

Q. Did you ever attempt to obtain any accurate information concerning the condition of the patentability of his application? A. I presume when we first talked with our solicitor about it that we would naturally asked him whether it was patentable.

Q. You say now that you understand that none of his claims were allowed; did you ever attempt to find out definitely whether they were allowed or not? A. No; I have a vague remembrance of our solicitor in Washington writing that Farrow's claims were antedated by several other men, and that the claims were thrown out.

Q. And that no patent was allowed him whatever? A. That is my recollection.

Q. When was a patent obtained on the Morrow break? A. Which one do you refer to?

Q. The one that you are at present making and selling. A. That is not a Morrow break; it is a patent that we are operating under that was purchased by us from Stover & Hanse—a patent taken out three years ago.

Q. What time was that purchased? —. ——.

Q. Was that purchased by a written agreement or contract?

20 A. Yes, sir; purchased by our attorneys in Philadelphia.

Q. Do you know about what is the time of the first adverse action in the Patent Office on the Farrow application? A. I do not.

Q. When did you first know that the Farrow invention could not be patented? A. I don't remember.

Q. Do you know about what time? A. No, sir.

Q. Do you know if it was in the year 1897? A. No, sir.

Q. Was Mr. Skidmore, of Washington, authorized by your com-

pany to look out for this matter and prosecute the patent? A. I don't think he would take it out if he wasn't authorized to do it.

Q. I mean the Farrow patent. A. I don't think he would do it if he wasn't authorized to do it by us.

Q. Do you recall having written a letter to Mr. Farrow stating that you regretted that you ever heard of the Farrow devise; that you had lost thousands of dollars by it; that you couldn't get a patent that was worth a pinch of snuff; that if you could use his devise with others you had you would do so? A. I don't remember writing such a letter, but one or two expressions sound very familiar.

Q. Could you say how you determined at the time that you couldn't obtain a patent of any value on the Farrow devise? A. I don't know. Our patent attorney may have written me to that effect, or Mr. Farrow may have written to me.

Q. Do I understand that you don't recall the time that Farrow's devise was not patentable? A. No, sir. I don't remember anything about it.

Q. You spoke of the Farrow application having been anticipated by several others. Do you know that it was anticipated by Morrow? A. Which one of Morrow's? He has got half a dozen.

Q. The one you mentioned as having bought from him about July the 15th. A. Never bought a patent from Mr. Morrow.

Q. Interest in it? A. Never bought an interest in it; never paid him a cent of compensation in any way for his patent except a foreign application, I think, we bought from him a short time ago.

Q. Did Mr. Morrow ever assign to you or the company about July 15th, 1897, an interest in the devise known as the break and coaster? A. Mr. Morrow has assigned to me individually an interest in a good many patents.

Q. I said about July 15, 1897. A. I don't remember.

21 Q. Do you know if the applications of Farrow were anticipated by any application of Mr. Morrow's? A. Which one of Mr. Morrow's?

Q. Any. A. Farrow's application is no more like Morrow's application than a cart wheel is like a coal screen, entirely different, no resemblance in any way, shape, or manner.

Q. His invention was not anticipated by Mr. Morrow's, then? A. In no way, shape, nor manner.

Q. When did you first see the devise invented by Farrow? A. I don't remember.

Q. Do you remember from whom you first heard of it? A. From our manager of our branch office in Washington.

Q. What is his name? A. J. D. Lasley.

Q. Do you know about what time that was? A. No, sir.

Q. Were you aware that the agent you had in Washington before Mr. Lasley had corresponded with your company relative to this matter? A. No, sir; I don't remember anything about it. I don't think he ever did.

Q. Are you aware that your former agent, Mr. Cabrera, aided Far-

row in this matter? A. I never knew that Cabrera had any connection with it in the remotest way.

Q. For the purpose of identifying the exact devise, I mean, will you please describe what, in your opinion, was sought to be accomplished by the Farrow devise? A. His idea was that he could set the break of a bicycle by backward pressure of the pedals, and when going down hill, by holding the feet perfectly still, the pedal would remain still and move on without any pedaling.

Q. When did you first hear of any devise whatever that would accomplish what you have described? A. I don't remember.

Q. Do you know whether or not Farrow's was the first you knew of? A. No, sir.

Q. You say Mr. Lasley brought the Farrow devise to your mind. Do you know of any other accomplishing the same thing that has been brought to your mind previously? A. No, sir; I don't remember.

Q. Who brought your attention to the Stover & Hanse devise that you have mentioned? A. I don't remember.

Q. Do you know it was Mr. Skidmore, your attorney in Washington? A. I have no recollection.

Q. Do you recall if Mr. Farrow ever wrote a letter to your
22 company or to you directly complaining relative to the workmanship of the breaks and coasters that you first manufactured? A. No, sir.

Q. Do you know if any letter was ever written by an officer or employé in your company explaining that the difficulties that you had in properly manufacturing this devise was owing to the difficulty in getting the proper material? A. No; I don't.

H. H. FULTON.

A. P. MORROW, a witness called by and on behalf of the complainant, being first duly sworn, is examined by Mr. Earle.

Q. Mr. Morrow, will you please state your occupation and residence? A. Superintendent of the Eclipse Bicycle Company.

Q. How long have you been superintendent of the company? A. About 7 or 8 years.

Q. Were you superintendent in the spring of '97, say from May to July? A. Yes, sir.

Q. And on since then? A. Yes, sir.

Q. Please state briefly what are the duties of the superintendent. A. Superintendent has full charge of the factory affairs; charge of all the men, work, materials in the factory; looking after the work generally, getting it out.

Q. Are you an inventor of a bicycle devise known as the automatic break & coaster? A. I am.

Q. Is it patented? A. It is.

Q. Have you obtained letters patent on it? A. I have.

Q. Do you remember when you applied for letters patent; when

you made application? A. No; I don't remember just when the application did go in.

Q. Can you state whether the same has ever been used on the Eclipse wheels by the Eclipse Bicycle Company? A. Yes, sir.

Q. Is it in use now? A. Yes, sir.

Q. What other inventions have you ever made? A. A number of inventions—different kinds of mechanical inventions.

Q. Mostly inventions concerning wheels, bicycles? A. Principally those—these patents are.

Q. Can you state about what time you conceived or originated the idea of the automatic break & coaster which you mentioned? A. I am not prepared to state just what time it was, as I disremember.

23 Q. Do you know if it was in 1897? A. I couldn't tell you. I have put in so many patents in the Patent Office that I don't keep track of them.

Q. Was it more or less than six months before you made application? A. That is, the invention?

Q. Yes. A. I don't remember how long it was. I couldn't answer that question.

Q. You couldn't say? A. No; I couldn't say.

Q. Do you remember about what time the company began the manufacture of a devise known as the Farrow devise? A. I remember their manufact-ring a few of them, but I don't remember the time.

Q. Do you know if it was in 1897? A. I presume it was in the neighborhood of that time.

Q. Do you know if it was on or about June, 1897? A. I am under the impression that it was later than June; it might have been somewheres between June and July, I don't know.

Q. Somewhere about June or July? A. I don't consider they manufactured them; they made a few of them.

Q. At the time you first began manufacturing these devises were you consulted concerning them, being the superintendent of the company, and having charge of turning out the work? A. Yes, sir; I believe I was. Of course, I naturally would have to be.

Q. Do you know about when that was? A. No.

Q. It was about the time that you began manufacturing them? A. Must have been.

Q. Had you ever, previous to this time, seen or heard of this special devise—the Farrow—that you afterwards manufactured? A. No; never heard of it before I saw it here. There was nothing new about it that I could see.

Q. Did you receive any letter or see any letters which was written to the company from the Washington agent, Mr. Cabrera, concerning this? A. I don't remember seeing any letter from Cabrera.

Q. Do you remember ever writing any letter concerning this devise to the agency in Washington prior to June the 5th, 1897? A. Never wrote any letter in reference to the Farrow break at all, that I know of, to anybody.

Q. Do you remember ever expressing an opinion of it prior to June the 5th, 1897? A. No; I do not remember.

Q. Before the time that you were consulted as to the manu-
24 facture of it did you know that Mr. Fulton was contemplating putting such a devise on the market? A. I knew nothing whatever about it; it was not my business.

Q. Are you an expert machinist? A. Yes, sir; I am.

Q. Expert manufacturer? A. Have been in the manufacturing business for quite a while; I ought to be.

Q. Was it usual for the president of the company to consult with you concerning the making of improvements on the wheels that you manufactured? A. It is a pretty hard question. That question might mean considerable. I very often invented things—in fact, I generally always do—without consulting Mr. Fulton or any one else. If Mr. Fulton had an improvement he wanted manufactured he would give orders from the office to me, and I would have charge after they came into the factory.

Q. Would he be apt to consult you about it as to the best way to do it before he would give orders to have it manufactured? A. It would depend a great deal upon what was to be manufactured. I would say some things he would and some things he would not.

Q. By whom and when was the Farrow device first brought to your attention in any way? A. If I remember right, I happened to see the devise on the street; somebody was riding it, I don't remember now who it was, and my attention was called to it and I examined it—that is, as far as I remember about that.

Q. Where was it? A. On the street of Elmira.

Q. Do you know about what time of the year? A. I don't remember the year; I couldn't say positive about that.

Q. Was it in 1897? A. I presume it was; that is about the time the break came around here.

Q. Was it summer or winter? A. Somewhere in the spring, between May and July, I should think.

Q. Was that the Farrow devise that you saw? A. Yes, sir; the Farrow devise.

Q. Was it on an Eclipse wheel? A. I can't say whether it was or not now; I don't remember that.

Q. Do you know who made the devise you saw? A. No, sir.

Q. Do you know whether or not it was made by your company? A. I don't think it was; I don't know.

Q. When was the next time that you ever saw the Farrow devise? A. I don't remember that; I just happened to remember seeing it the first time on account of its peculiar construction.

Q. Do you know where that devise you saw came from?
25 A. I couldn't say where it came from; I suppose it came from Washington.

Q. Do you know when your company first began to manufacture the Farrow devise? A. No.

Q. Do you know whether it was before or after you saw the one that you described? A. It was certainly after.

Q. Do you know when you stopped manufacturing them? A. No; we didn't manufacture them; we only made a few of them. I don't consider that manufacturing. We only turned out less than a hundred, considerably.

Q. You don't know when you stopped turning them out, do you? A. No.

Q. Do you know if it was as much as a month after you began making them? A. No; I don't. Of course, we only sent out a few of them a day, probably.

Q. Did you keep any book or account which will enable you to tell definitely when the last one was made? A. Yes, sir; we did.

Q. You can tell, then, by referring to that book? A. Yes, sir; we can tell.

Q. When was the invention that you made, which accomplishes about the same thing that the Farrow invention does, first introduced? A. I don't remember when we commenced manufacturing that. It was quite a long while after, though.

Q. When was it first used—when did you begin to make it and sell it? A. That would be manufacturing; I don't remember that.

Q. Do you remember if at the time you stopped making the Farrow devise you began making the other, and how long after you stopped making the Farrow devise did you begin making the other? A. There was quite a long interval between the two, but I don't remember how long.

Q. As much as six months; do you think it would be as much as six months? A. There might have been as much as that, but I don't remember; it might be less.

Q. Would the books of the factory show? A. The books of the factory would probably show; yes, sir.

Q. Do you know of an invention accomplishing the same thing as yours known as the Stover & Hanse patent? A. I don't know anything about it; only the patent record is all.

Q. When did you first know of it? A. First knew of it when I applied for a patent on my break.

26 Q. When did you know of any devise that accomplished about the same thing as the Stover & Hanse break and coaster and your break and coaster? A. I don't know as I could answer that very satisfactory. The coasting part of a bicycle is an old devise, been used years and years back, and a break is a very common thing, used on the old Springfield roadster.

Q. Can you state briefly the difference between your devise and that of Farrow's? A. The only similarity between the two would be in the rear clutches. Outside of that there is no similarity.

Q. Do they accomplish about the same thing? A. I consider mine accomplishes more than his.

Q. They both admit one to coast and put on the break by reversing the pedaling? A. Yes, sir. A man going downhill can apply an old break on the wagon and stop it, and the breaks on cars these days that do it do it in a more modern way, and that is just about the difference between his and mine.

Q. But they are both the same, so far as allowing one to coast without having the pedals revolve and putting on the break by reversing the pedaling? A. That is the purpose that both devises were invented for.

Q. Did you invent a devise known as the auxiliary break or antifriction break? A. No; I never heard of any break by that name.

Q. Did you make any other invention involved in principles as laid down in the break and coaster? A. Yes, sir.

A. P. MORROW.

Depositions on Behalf of Complainant.

Filed April 15, 1899.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
THE ECLIPSE BICYCLE CO. } No. 19095. Equity.

Whereupon JAMES D. LASLEY, a witness of lawful age, called by and on behalf of the complainant, being first duly sworn, is examined—

By Mr. EARLE:

Q. Where do you reside? A. Here in Washington.

Q. What is your occupation? A. I am a bicycle dealer and manager for the Eclipse branch here in Washington.

27 Q. Who was your predecessor here as manager? A. The manager was Charles A. Sabrera.

Q. Do you know Mr. Willard M. Farrow? A. Yes, sir.

Q. When did you first know him? A. I cannot give the date, but I think it was prior to the first of June, 1897; it was some time near about that.

Q. It would be in the spring of 1897? A. Hardly as far back as spring. I do not remember the date, but I think it was some time in May.

Q. That you first new him? A. Yes, sir.

Q. Do you know of a bicycle device that Mr. Farrow invented or had? A. I know of a device that he claimed to have invented—one that he submitted to me.

Q. What was the nature and purpose of that device? A. Why, it was a brake with a coaster attachment.

Q. When did you first see this? A. Along about the time I first met Mr. Farrow; the first meeting with Mr. Farrow was his coming to see me.

Q. Where was that? A. At my store here in Washington.

Q. The branch store of the Eclipse Bicycle Company? A. Yes, sir.

Q. Did you have any conversation with Mr. Farrow at that time regarding this? A. Yes; I had some in regard to this device, but I could not recall it, as it is too long ago.

Q. Did Mr. Farrow say anything to you about having shown the device to Mr. Cabrara? A. Never.

Q. Did you bring this matter, in any way, to the attention of the Eclipse Company? A. Not to the company, but to members of the company—to a certain member of the company. I showed it to him.

Q. Who was that? A. Mr. Fulton.

Q. You showed the device to him? A. Yes, sir.

Q. Did you show it to him or write to him about it? A. I showed it to him. I never said anything to him about it until he came up.

Q. Do you remember Mr. Fulton's being here on or about June 5th, 1897—about the 1st part of June? A. Yes; I remember it, but I do not remember the date.

Q. Was that the first time you showed him this device? A. But at the time there was a contract made, you know—some sort of agreement between Mr. Fulton and Mr. Farrow—and it was at that time I showed him this device, but when he was here. I do not remember the date—what time it was.

28 Q. You showed him the device before the contract was made? A. Yes, sir.

Q. Were you present at any time with Mr. Fulton when he was negotiating with Mr. Farrow for the purchase of this device? A. Yes; I was in my office, but when they were talking over the matter and drawing up the contract——

Q. Did you introduce Mr. Fulton to Mr. Farrow? A. Yes, sir.

Q. Where was that? A. That was in Mr. Farrow's shop, down the lower part of town some place, but I do not remember the name.

Q. Were you present when the agreement was signed? A. Now, I cannot say. I may have been there, but I was in and out of my office attending to the sales department of my store, and I would walk in and overhear a word here and there, and then back and forth attending to my business, and I did not give close attention to the conversation between Mr. Fulton and Mr. Farrow.

Q. Do you remember a question arising as to the ownership of the device—of the invention of Mr. Farrow's? A. No.

Q. When was it that you showed Mr. Fulton this device? A. Right in my store.

Q. Had you made prior to that time any arrangement with Mr. Farrow for making any of these devices? A. Yes, sir.

Q. Tell what that arrangement was. A. That was an arrangement between Mr. Farrow and myself, that he was to make a certain number. I have a copy of the contract—of the arrangement made with Mr. Farrow—some place among my papers. It was simply that I thought well of the device and I wanted him to put some of them on some Eclipse wheels for me, and he made an arrangement by which he would make them for me at a certain cost. I do not

remember the cost now, but I think he agreed to make so many a week, and I was to take all he could make to a certain time. I forget now just how it was.

Q. Is that contract in writing? A. Yes, sir.

Q. Did Mr. Farrow carry out that contract with you? A. No.

Q. Did you know why he did not? A. No.

Q. That was prior to June 5th? A. That was prior to June 5th.

Q. Was it soon after that that Mr. Fulton made the agreement? A. Yes, sir; very shortly after that, I think, Mr. Farrow did make some and I had lots of orders in there, and he could not fill the orders.

Mr. MACKALL: It is hereby stipulated and agreed that the depositions of these witnesses are taken with the understanding
29 and agreement that they are not to be used until the right to cross-examine has been exercised or waived.

WILLARD M. FARROW, a witness of lawful age, called by and on behalf of the complainant, having been first duly sworn, is examined—

By Mr. EARLE:

Q. Mr. Farrow, please state your full name and occupation. A. Willard Milton Farrow, expert machinist and inventor. I put that on because I have invented a number of things.

Q. Where do you reside? A. No. 160 Heckman street, Washington, D. C.

Q. How long have you been a mechanic? A. Well, it is quite a number of years. I have a shop of my own, with machinery, for about twelve or fifteen years.

Q. Your occupation has always been that of a mechanic? A. I was a watchmaker and jeweler for 11 or 12 years and had tools of my own; I consider a watchmaker a mechanic.

Q. Are you the inventor of a bicycle device? A. Yes, sir.

Q. Please describe what sort of a device it is, just as brief as you can, and state the nature of its use. A. Well, I call it a coaster break because it would allow one to ride with their feet on the pedals—that is, holding them still and coast, as we would say, and the by reversing the pedals they would put on the break and stop the machine.

Q. Did you invent anything else? A. Yes, sir; I invented a rifle action—in fact, two or three of them.

Q. Did you have any of those inventions patented? A. Yes, sir.

Q. When did you invent the bicycle device that you have mentioned? A. I could not give you the exact date without looking at the papers.

Q. About what time? A. Well, it was before I came to Washington—two or three years before. I was at Morgantown, West Virginia, and I came here. It is all down, you know, on paper somewhere.

Q. Do you know when you first applied for a patent? A. The first application was in July, 1896.

Q. About how long before that had you invented it? A. Well, I would like to qualify that a little bit, because, you know my rifle, I invented three or four phases. I was not satisfied that I had perfected it until the last one, so I had——

Q. I want to fix the time when you invented this device—when you applied for a patent. A. Well, you know there are two or three applications in and I do not want to be confused with the one that is under consideration and any previous one. Now, the one that I put the greatest faith on—the perfected one—the application was in December, and the other was in July; so that I had the idea of a coaster and break and invented the idea way long before July, but you know the most perfect arrangement of it was not just complete at that time; that is the point I want to make.

Q. I want to know about when it was. A. It was in the spring of 1896.

Q. When did you first apply it to a bicycle? A. Along soon after that that I applied it.

Q. To what wheel did you first apply it? A. It was the Eclipse wheel that I applied bicycle break.

Q. Where did you get that wheel? A. It was sent to me at Morgantown by Mr. Cabrera, of the Eclipse people in Washington.

Q. To whom did you first show that device? A. Well, you mean in a business way?

Q. Yes, sir. A. The way I come to put it on the Eclipse wheel, I was here and saw Mr. Cabrera and talked with him about this invention, and he sent me a wheel to Morgantown to put this device on it.

Q. You showed him the device? A. Yes; I showed Mr. Cabrera; not the complete device on the wheel, but I showed him the device that I had on an old wheel, you know, but not the completed device. He sent me a wheel for it and I finally put the device on it.

Q. Then you put this device on the wheel that he sent you. Did he see that wheel? A. After I had put it on?

Q. Yes, sir. A. Yes, sir; I took it up and showed it to him.

Q. Who was Mr. Cabrera? A. One of the Eclipse bicycle people here in Washington.

Q. Did you have any talk with Mr. Cabrera about this device when you showed it to him on the Eclipse wheel? —. ——.

Q. What took place between you and Mr. Cabrera? A. Well, we had a conversation. I wished to make some bargain with him whereby I could get some money out of the break and coaster, and he gave me to think that the Eclipse people would be glad to get an improvement of that kind.

Q. Did you ask him to bring it to their attention? A. Yes, sir.

Q. Did he do so? A. Well, he told me——

Q. Did he ever tell you that he did so? A. When I talked with him and showed him this thing he asked me to wait until he could

write to the bicycle company or write to Elmira—I think that is the way he put it—and find out what he could do, and I went up again and he said he had not written, but he would have his book-keeper write.

Q. Did you know that book-keeper? A. Well, not very well.

31 Q. Did you have any talk with him? A. Yes, sir; I talked with him in the office there. That is the only place I ever remember meeting him, when I went to the office two or three times.

Q. Did the book-keeper ever tell you that he had written? A. Yes, sir.

Q. Did he show you any reply to his letter? A. He showed me a letter that he had received from the superintendant, I think it was.

Q. Do you remember his name? A. Morrow, of the Eclipse Bicycle Company of Elmira.

Q. What did the letter say? A. Mr. Morrow stated in this letter that the device I had was a good one, but he could not place it at that time. I do not know whether he gave me any time or not, but he said that they would hold on to it and not give it away for nothing, as it was a good idea, but they could not use it at that time.

Q. Did you have any conversation with the book-keeper regarding this matter? A. Yes, sir.

Q. I believe you said you did not know that book-keeper's name? A. No; I do not remember his name.

—. ——. A. Well, the book-keeper said that Mr. Morrow was working on an invention of his own, which he called an auxiliary brake, and he fancied that was the reason he could not take hold of mine, because he wanted to work his own in, so they could not do anything then. The book-keeper told me that.

Q. Do you know Mr. Lasley? A. Yes, sir; Mr. Lasley, of the bicycle company.

Q. When did you first know Mr. Lasley? A. When I went up with the wheel to show Mr. Cabrera, expecting that he was there at the office, I found that Mr. Cabrera had been disposed, and that is where I first met Mr. Lasley.

Q. You met him at that time? A. Yes, sir.

Q. Did you have any talk with him about the matter you went to see Mr. Cabrera about? A. Well, you see I went there and asked for Mr. Cabrera, and then I asked for the book-keeper, as he kinder intimated that he might be able to do something for me, and that is why I called up there. This time I enquired for Mr. Cabrera; he was not there; then I asked the book-keeper, and then I found out that the book-keeper was a new man to me, and I said, "This is not the gentleman," and he said, "What do you want, do you owe for a wheel?" and I said, "No; I come up to show my invention to Mr. Cabrera, as he told me to call and see if he had any news," and he said, "Show it to Mr. Lasley." I showed it to Mr. Lasley and he

looked at it, and he had one of his young men to ride it up to
32 the avenue and back or up the street, and he came back smiling and said, "That was all right," and then Mr. Lasley tried it and he went up and he seemed very much pleased when he returned, and that is where I first met him.

Q. Did Mr. Lasley make any arrangement as to the use of your bicycle device? A. Yes, sir.

Q. Was the arrangement or agreement in writing? A. It was in writing——

—. ——. A. After he had signed it and all that and the agreement that we made with him that he was to have seventy-five of these, we were to put on seventy-five of these and he was to have the control of the District and we would not put on for anybody else.

Q. On the Eclipse wheels? A. Yes, sir.

Q. Did you ever carry out that fully? A. Not fully, only partially.

Q. Why didn't you complete it? A. Well, the president came down from Elmira and he and Mr. Lasley came to my shop, and we made a subsequent deal and annulled the contract.

Q. What was the name of the president of the company? A. Mr. Fulton.

Q. Did you say Mr. Fulton came to your office with Mr. Lasley? A. Yes, sir.

Q. That was the first time you ever saw Mr. Fulton? A. Yes, sir.

Q. What passed between you and Mr. Fulton? A. Well, we talked over the matter of this invention with the view of my making a disposition of it in some way so they could get it and control it for the Eclipse bicycle, and it was very near twelve o'clock and he invited me out to lunch and the three of us went up to a hotel and had lunch, then we parted and had subsequent interviews.

Mr. MACKALL: I object to all this testimony on the ground that it is absolutely immaterial and irrelevant and incumbering the record and making unnecessary expense, which I shall ask to be taxed against the plaintiff.

Q. You had an interview. When was that? A. That was subsequent, one evening at the bicycle company, and it was where I first met Mr. Skidmore. My patent lawyer was there, Mr. Fulton, Mr. Lasley, and myself.

Q. Who was your patent lawyer that you mentioned? A. Mr. Pollard.

Q. Did you finally enter into an agreement with Mr. Fulton? A. Yes, sir. I think he had a second visit to my shop with Mr. Lasley, and it was there we came to a final agreement.

33 Q. The agreement was signed? A. It was not signed at my shop, but it was agreed upon there.

Q. Then you had this agreement written up and you signed it? A. Yes, sir; the agreement was written up in Mr. Skidmore's office.

Q. Where did you sign it? A. I think we signed it at Mr. Skidmore's office.

Q. Do you know who prepared the agreement? A. Well, it was prepared, you might say, between us and then recopied and adjusted. We had to alter it once or twice. I want to say something here that ought to be of material use in this case, because Mr. Fulton and Mr. Lasley came down to my shop and I had another deal with this thing whereby a man was willing to put in $10,000 and build up a business with me.

Q. What was his name? A. Mr. Pugh was the promoter, and I want to say we had one interview with him.

Q. Why were these negotiations ended? A. Well, because owing to the representations and promises made to me by Mr. Fulton that he would make more money by dealing with them than I would in this other way, and being less trouble; that is why I closed the deal.

Q. In your talks with Mr. Fulton did you say anything to him about the interest of any other person? A. I mentioned to him that there was another party interested with me, and I brought the agreement down when he was in my shop and handed it to him.

Q. You mean the agreement between you and the other party? A. Yes, sir.

Q. He saw that? A. He saw that and had it in his hand.

Q. What amount of money did you receive from the Eclipse Company in payment under the terms of the agreement? A. The amount of $2,500.

Q. Did you receive all that at once or in what sums? A. I received $1,000 down and then three notes of thirty, sixty, and ninety days of $500 each.

Q. And they were paid as they became due? A. They were paid when they became due.

Q. Did you receive any further sum from them? A. No, sir.

Q. Did you make any demand for any further sum? A. I wrote them two or three times that I wanted my royalties according to the agreement as I interpreted it.

Q. Did you get any answers to these letters? A. Well, I got one or two answers, but I never got any money.

Q. Please look at this and see if that is the answer to one of the letters you wrote them? A. Yes; that is one I received from Mr. Fulton.

Mr. EARLE: I offer in evidence the said letter dated February 15th, 1898, to be marked "Complainant's Exhibit W. M. F. No. 1."

34 Q. Did you receive any other letter than that? A. About the royalties?

Q. Yes, sir. A. No; the other letters received from them I meant to intimate were about the other matters.

Q. That is the only letter you received from them in reply to your demand for royalty? A. Yes, sir.

Q. When did you first meet Mr. Skidmore, whom you mentioned

was present at the negotiations? A. The evening, at the Eclipse Bicycle Company, where we had the interview and he was shown the brake.

Q. Did you have any further business with Mr. Skidmore after that concerning this matter? A. Yes, sir.

Q. What was that? A. I went to his office, at his request, to sign papers of different kinds and transfer the power of attorney necessary to complete the agreement.

Q. What power of attorney was that? A. That my patent attorney should be withdrawn from the case, and I gave everything to him that he might prosecute the claims for the patent, because Mr. Fulton said to me that they would not be satisfied with my attorney pushing the matter when they had an attorney of their own.

Q. Then you gave him a power of attorney, revoking the power of attorney you had formerly given Mr. Pollard? A. Yes, sir.

Q. Did you say it was an understanding between you and Mr. Fulton that you should do this? A. Certainly, that was insisted upon; that was part of the agreement between us.

Q. Did you see Mr. Skidmore at any time after that relative to the foreign patents? A. Yes, sir.

Q. Did you sign any papers relating to them? A. Yes, sir.

Q. At his request? A. Yes, sir.

Q. Who prepared the papers? A. I think they were prepared in his office.

Q. Do you know about what time that was? A. I think it was in August some time, but I could not tell exactly.

Q. Did you employ Mr. Skidmore? A. No, sir.

Q. Did you have any talk with him relative to his fee in this matter for services? A. I spoke to him on the subject in his office and he assured me that he was not working for me, but that he was working for the Eclipse Bicycle people.

35 Q. Did you ever make any demands on the company requesting them to report to you what they intended to do with this machine—this bicycle device—and asking them if they were willing to undertake its management? A. I think, through my attorney, I did something of that.

Q. Did you see any of the devices of yours that were made by the company in accordance with their agreement? A. Yes, sir.

Q. Where? A. In Washington.

Q. How did you regard them? A. They were poorly put together certain parts were poorly put together. When Mr. Lasley would sell them they would come back to his shop and then he would send them down to me to be repaired, and I immediately complained to him and wrote to the factory in regard to the way they were being made, and I told Mr. Lasley that I thought some one at the factory was trying to kill the invention by the way they were sending them out.

Q. Did you receive any letter in reply to your letter complaining of the way that the goods were? A. Yes, sir; I received one letter.

Q. Please state if that is the letter you received in reply. A. Yes, sir; that is the very one.

Mr. EARLE: I offer in evidence the latter dated August 5th, 1897, to be marked "Complainant's Exhibit W. M. F. No. 2."

Q. Have you seen any devices similar to the one that you sold the Eclipse Company on the Eclipse wheels? A. Yes, sir.

Q. Will you explain, as briefly as you can, the difference between that device and the one that you invented? A. The devices both accomplish the same thing. The device that I sold the Eclipse people, the chain is clutched in a little hood in which is attached a rod that draws the break and applies it to the rim of the wheel.

Q. And making a break? A. Yes, sir; when you reverse the pedals in the other device, the spoon is pushed against the rim of the wheel by the action of the axle between the two pedals.

Q. And the difference is that it does not clutch the chain? A. Yes, sir.

Q. Do you know in what condition at the present your applications for patent are? A. No, sir.

Q. Have you made any effort to find out anything about this patent? A. I have made efforts.

Q. What effort did you make? A. Well, I went to the Patent Office and tried to find out something, but I was not a patent attorney and could not get at the bottom of the facts.

36 Q. Did you give any one power of attorney to examine that matter? A. Yes, sir; when I found out I could not find what I wanted—I am one of these kind that like to attend to my own business, then I do not get deceived as much as if some one else does it entirely—I gave my attorney power of attorney——

Q. Did he obtain any information for you? A. I do not think he did.

Q. Did you seek any advice on this subject? A. Further than from my attorney?

Q. From your attorney or any one else. Did you seek any advice as to what would be the result of your applications? A. This case was on and all that and I intrusted a great deal to my attorney in what he would tell me, so I have not applied for information to other parties.

Q. What understanding did you have as to the prosecution of your patents? A. That they would prosecute the patents and pay all the fees that——

Q. I believe you stated their attorney was employed for that purpose? A. Yes, sir.

Q. And you gave him a power of attorney? A. Yes, sir.

Q. And revoked the other power of attorney? A. Yes, sir.

Q. What action, if any, did you take in regard to these patents after you signed the agreement or gave a power of attorney to Mr. Skidmore? A. I did all that Mr. Skidmore asked me to do and visited his office and had interviews with him and went to foreign places to sign papers—made two or three trips of that character.

Q. But you took no steps to prosecute the patents yourself? A. No, sir.

WILLIAM M. FARROW.

Subscribed and sworn to before me this 7th day of April, A. D. 1899.

F. WALTER BRANDENBURG, *Examiner.*

Eclipse Bicycle Co., manufacturers of high-grade bicycles.

ELMIRA, N. Y., *Feb.* 15, 1898.

W. Milton Farrow, Esq., #315 13th St. N. W., Washington, D. C.

DEAR SIR: We have yours of the 14th, and in reply will say that we wish we never had seen or heard of the Farrow brake; it has cost us thousands of dollars, and, on top of all this, we cannot get a patent that is worth a pinch of snuff. Not only that, but your application was anticipated by one or two other parties, and the whole thing practically knocked out, and we are out every cent we paid you.

37 What we propose to do in the future can only be determined by the quality of the work we are now turning out. If it holds up all right we may be able to work your brake in with ours in some way to be of benefit to us, but as to this it is uncertain and we doubt it.

Yours truly,

ECLIPSE BICYCLE CO.
H. H. FULTON, *President.*

Eclipse Bicycle Co., manufacturers of high-grade bicycles.

ELMIRA, N. Y., *Aug.* 5, 1897.

W. Milton Farrow, Esq., Farrow Arms Co., Washington, D. C.

DEAR SIR: Your favor of July 30th to Mr. Fulton has been handed to us for reply. We note the enclosed springs which you send us, and will acknowledge that the first ones that we sent you were not exactly right, but we had to have them made up in the factory, as the express company were unfortunate enough to lose the first lot of springs which we had made by the manufacturers. However, we have been trying to replace these springs, and think we have succeeded in doing so. We note the wire which you enclose, also the spring, and we are enclosing you in return one of the springs which we are now sending out, and we think, if anything, it is a little better than the one which you have. We are at the present time having some springs made up with one less coil, which we think will be even better than the one we are using at the present time. There should be no trouble with this spring and a nine-tooth sprocket. We have in the house now 1,000 nine-tooth sprockets, which we shall start on at once and work up for these springs. They are made amply thi*nk*, so that there will be no

trouble in stretching, and we feel satisfied that the springs will now work all O K.

Regarding that portion of your letter in which you take up the matter of the loose head piece which clutches the chain, we might say that we have examined this part, and unless you got one which was a long way out we do not understand the matter. This piece is put in with Stubb's steel wire for a rivet, which fits exactly, and it is utterly impossible for it to strike one way or the other. Of course there is a rattle in the chain against the sides of the guide, but this is the fault of the brake and not the fault of the people who put it together.

We, however, thank you for calling our attention to these points, and we believe that they can be remedied without any trouble.

Awaiting your further reply, we are,

Yours very truly, ECLIPSE BICYCLE CO.,
Per J. W. BOWMAN.

38 JAMES L. SKIDMORE, a witness of lawful age, called by and on behalf of the complainant, having been first duly sworn, is examined—

By Mr. EARLE:

Q. What is your occupation and residence? A. Patent attorney; residence, 301 11th street southwest.

Q. How long have you resided in Washington? A. About 37 years.

Q. How long have you been practicing as a patent attorney? A. About twenty years—that is, as attorney and as representative of other attorneys.

Q. Are you the attorney for the Eclipse Bicycle Company? A. I am, regarding patents.

Q. How long have you been their attorney? A. About six years, I should say.

Q. Were you acting as their attorney between the dates of November, 1896, and July, 1897? A. I was.

Q. Did you ever make an examination of the patent records prior to June 5th, 1897, regarding the application for patent of W. M. Farrow? A. I am not certain as to dates, whether I made one prior or subsequent to that date.

Q. Did you prepare the agreement between the Eclipse Bicycle Company and Farrow (selling to the Eclipse Company the bicycle device in which Farrow had filed two applications for patents)? A. I did.

Q. Prior to the preparation of that agreement do you recall if you made any search of the records in regard to condition of his application? A. Only a partial search—a very limited search.

Q. Do you recollect what you found in that search? A. I can recall a patent granted to Stover and Hance prior to 1890, which appeared to have material bearing upon the subject-matter set forth in

the invention sought to be controlled by the Eclipse Bicycle Company.

Q. I understand that you found that the Stover and Hance patent which had been granted would affect the application of Farrow? A. It appeared to materially effect the application of Farrow—that is, the invention that the company sought to control.

Q. Did you report that fact to the company? A. I did later on, but I do not know just what date.

Q. Do you know if you reported that fact to the company prior to their making this agreement? A. I do not.

Q. It was subsequent to it? A. Yes, sir.

Q. Did you go over the records and papers that had been
39 filed by Farrow prior to the making of this agreement? A. I did.

Q. Prior to June 5th? A. Yes, sir.

Q. Did you make any report to the company or any of its representatives as to what you found? A. I did.

Mr. MACKALL: I object to the question as immaterial, irrelevant, and incompetent.

Q. What did you report to them?

Mr. MACKALL: I make the same objection as above set forth.

A. I am not certain as to the contents of it.

Q. You knew they were about to make this agreement with Farrow? A. I did.

Q. And as their representative, if you had found anything that would lead you to believe that his applications were valueless, you would have reported that to the company? A. My advice to the company was not to purchase at that time on the strength of what I had disclosed on my search.

Q. Was a power of attorney given to you by Mr. Farrow to prosecute these applications? A. Yes, sir.

Q. Did you engage in the prosecution of the applications? A. I engaged in the prosecution very diligently.

Q. What steps did you take regarding this? Please explain as briefly as you can. A. I prepared the application containing the invention of importance to the company and placed it in better shape, according to my opinion, and filed the papers in the Patent Office as soon as possible after I received the power of attorney from Mr. Farrow.

Q. And filed the power of attorney? A. Yes, sir.

Q. Do you know about what time it was that you filed those new amended papers and claims? A. They were filed in the summer of 1897.

Q. Subsequent to the making of this agreement? A. Yes, sir.

Q. Do you know about how long after the making of the agreement? A. It is all in the Patent Office. I might say one date and the office might have another date. A certified copy of the Patent Office Record would disclose this.

Q. What was your next step after filing these amended applications—there were two applications—did you file amendments in both? A. I did.

Q. What was your next step regarding these applications? A. The next step was to await an official reply from the Patent Office in reply to my communication.

40 Q. Did you receive one? A. I did eventually. They were considerably behind in their office work in that line of invention, and hence considerable delay between official actions.

Q. On the 1st of January, 1898, can you recall about what the condition of these applications were at that time—what progress had been made in the prosecution? A. Last January—they were involved in interference at that time—that is, the invention purchased by the bicycle company from Mr. Farrow was involved in litigation—what is termed an interference proceeding in the United States Patent Office.

Q. Up to what time did you continue the prosecution of these applications? A. Until the record of interference disclosed the fact that Mr. Farrow had no chance of success in the litigation.

Q. About what time was that? A. That was after the preliminary statements had been filed, opened, and approved by the Patent Office and the times for taking testimony had been set finally by that office.

Q. In regard to these interferences? A. Yes, sir; interferences A, B, and C. There were three interferences in which Mr. Farrow was involved in this particular invention.

Q. When these interferences were declared, you thought then that it was unnecessary to continue the prosecution of the application. *Q.* Not when the preliminary interference was declared. After the preliminary statements had been filed, disclosing the dates of the conception of invention by each of the parties in the interference—I say, after these statements were finally filed and opened by the proper tribunal in the office, and then the final interference declared and times set for taking testimony officially, and after I had examined the sworn preliminary statements filed by each party to the contest, I discovered the fact, and also after consultation with Mr. Farrow in my office, when he informed me that he could not go back of certain dates as to reduction to practice, I then informed the company to such effect and gave them my advice at length and told them that I did not see the slightest hope of winning out in the contest and asked them their views and they said they did not care to take any testimony.

Q. You discontinued? A. I discontinued to act in the interferences. I might add that in December 18th, 1897, interference A, in which Mr. Farrow was involved, was decided in favor of one J. A. Little, who was also involved in one of the interferences, the record disclosing the fact that Mr. Little filed his application for patent in the office, if I remember correctly, prior to even the conception of the invention by Mr. Farrow.

Q. Did you prosecute the applications of Mr. Morrow? A. Yes, sir.

41 Q. About what time did you file his applications? A. I think I filed his application for patent, of course the record in the Patent Office will disclose that, in the fall of 1897, the latter part of the summer or early in the fall.

Q. Can you tell me about what date it was that you discontinued the prosecution of the Farrow patent and reported to the company that you had done so? A. I cannot from memory, but I think it was in the early part of 1898.

Q. You stated that you filed these amended claims for Farrow. Now, the usual practice is, is it not, when you decide that some other invention may interfere with it you amend your claims to get around that? A. When any other patent comes pretty close to or meets the terms of the claim, the custom is to amend the claim to avoid the language or mechanical structure of the interfering patent, stated by the examiner as a reference.

Q. That is what you did in the Farrow patent? A. Yes, sir, in order to avoid the Stover and Hance and all patents of record.

Q. What other patents were of record other than the Stover and Hance? A. I found that the case had been acted on officially by the Patent Office officials prior to my receipt of power of attorney, and I remember that Stover and Hance was one of the patents cited, it being the nearest approach and the one having material bearing on the case, and I considered it the most important reference. I do not remember at present the additional references of record in the case at that time.

Q. What action had been taken by the Patent Office on Mr. Farrow's case prior? A. It had been rejected; certain claims had been rejected.

Q. In the entire application? A. Certain claims of the application. I am not certain that all the claims were rejected, but my impression is that only a certain number were rejected on prior patents.

Q. It was then that you amended his application? A. I amended after I received the power of attorney.

Q. Did you prepare an assignment from Mr. Morrow to the Eclipse Bicycle Company or any of its representatives who were interested in the invention he made? A. I am of the opinion that I prepared an assignment from Mr. Morrow to Mr. Fulton of a one-half interest.

Q. Do you know about what time that was? A. I do not, but the Patent Office record will disclose that fact. The assignment will disclose the date of it and when recorded.

Q. Mr. Skidmore, do you recall my having called on you at your office and requested some information regarding these patents? A. I do.

42 Q. Do you remember what you told me concerning them? A. In a general way.

Mr. MACKALL: I object to the question as incompetent, immaterial, and irrelevant.

Q. Do you recall what passed between us and if you gave me the information that I requested? A. I do not know what you wanted particularly at this time.

Q. Do you recall stating to me at the time I called on you that the Eclipse Bicycle Company had purchased Farrow's applications—his invention—and found that it was absolutely worthless and had purchased another? A. No, sir; I never said any such thing as that; not in that language.

Q. Mr. Farrow had two applications, did he not? A. He did.

Q. Do you remember the number of these applications? A. I do not.

Q. When was it possible for you, as an experienced patent attorney, to state with reasonable certainty the outcome of the Farrow patent? A. On the question of patentability?

Q. Of the patentability of the Farrow application. A. It was reasonably certain to me that after February 1st, 1898, Mr. Farrow had no chance of success in the interference contest, and hence that the essence of his whole invention was defeated, and that he would never receive a patent covering the essential features of the invention which was purchased by the Eclipse Bicycle Company.

Q. When was it possible for you, as an experienced patent attorney, to state with reasonable certainty the outcome of the Morrow patent?

Mr. MACKALL: I object to the question as immaterial and irrelevant.

A. After the first action by the examiner of the Patent Office it was reasonably evident that he would receive a patent of some kind. It was evident because there was no contesting reference cited of material value to defeat a patent. You are never certain that you will receive a patent until it is issued, because it may even be withdrawn from issue after having been allowed.

Q. Does the opinion that you have just rendered as to the Morrow matter involve both applications? A. No.

Q. Do you know of any difference in the Farrow applications? Do you think it would be possible that one of his applications would be allowed and the other not? A. Yes, sir.

Q. Do you recall which application was the one in which such interferences were declared that lead you to believe that the patent would not be issued. Was it the first or the last one? A.

43 Only one application was involved in the interference.

Q. Do you recall which application that was? A. Yes, sir.

Q. Can you give me the number of it? A. No; I can give you the essence of the invention. I can say that the invention of Mr. Farrow involved in interference. The invention in controversy that Mr. Fulton, of the Eclipse Bicycle Company, purchased from Mr. Farrow—that is, what was supposed to be invention at that time—consists of a little projecting portion fastened to the frame of the bicycle, and this projecting portion is adopted to be engaged by

the driving chain of the bicycle. The act of what is commonly called "back-pedaling" will cause the driving wheel to engage the said projecting portion, which portion, in turn, operates a bell-crank lever, which latter applies the brake-shoe to the periphery of the rear-wheel tire.

Q. Do you know that Mr. Farrow sold, under his agreement to the Eclipse people, two applications? A. I do.

Q. Now, in your opinion, do you mean to say that both applications were involved in interference to such an extent that you did not think it necessary to prosecure them or any of them? A. I said that only one of these applications—the subject-matter of only one of these applications—was involved in the interferences, but that application was an invention—supposed to be invention—purchased by the Eclipse Bicycle Company. I can*n* tell you the application involved in the interference was the application filed in December, 1896.

Q. What application was involved in the interference? A. The one Mr. Farrow refers to as his perfected invention which he filed in December, 1896.

Q. You took no further steps in the prosecution of that application? A. I fought that application to an interference declaration and until after it was cleared to me and Mr. Farrow, so far as consultation furnished me with information, that we had no chance for success.

Q. Did you prosecute the other application? A. I did.

Q. Will you state what condition that is in now? A. It stands allowed.

Q. The other application stands allowed? A. Yes, sir.

Q. Were letters ever issued on it? A. No, sir.

Q. Why not? A. The company decided it was not of material value—at least of such value as to warrant the expenditure of $20 to issue the patent.

Q. Did you ever submit to the company a report as to the patentability of any application for patent on similiar devices of
44 Mr. Farrow's? A. No; I never submitted any such report on similiar devices of Mr. Farrow's in my life.

Q. Can you briefly describe the difference between the Farrow and the Morrow device? A. I should say that Mr. Morrow made a material departure from the invention involved or the construction disclosed by Mr. Farrow's device. It is what may be termed in patent matters as a departure, especially from a mechanical standpoint. Mr. Farrow's invention or device consists of a projected portion so fastened to the frame of the bicycle that the driving chain will catch that projected portion and through an intermediate portion leading to the brake-shoe will cause the brake-shoe to act on the rear-wheel tire. Mr. Morrow's invention now patented consists of a clutch on the driving axle or shaft, which clutch is so connected with an arm, which is latter fastened to the frame of the bicycle between the rear wheel and driving shaft or axle, that when the rider back-pedals the brake-shoe will be applied to the tire of the rear

wheel, and my further distinction is that one operates to apply the brake through the driving chain alone, the other operates directly from the driving shaft or axle and the ring or clutch device surrounding the driving axle.

Q. Now, will you state, Mr. Skidmore, what is the difference and what is accomplished by the two devices? A. Well, I will say they both accomplish substantially the same result.

Q. In different ways? A. By different mechanical structures.

Q. Accomplish the same thing? A. Accemplish substantially the same thing.

Q. If the last application of Mr. Farrow, namely, the one involved in interference, had been prosecuted to the end, would he ever received, in your opinion, any kind of a patent? A. In my opinion it is possible that he might receive a claim of a specific and limited nature.

Q. The application on which the patent was allowed, will you state what you know as to the importance of the claims and the value of that patent? A. I know that the claims are comparatively limited in scope and character, and that Mr. Farrow and Mr. Fulton both dismissed them as being unimportant, and although the application has been prosecuted to an allowance, it has never been considered of importance to have the patent issued.

Q. I understood you to say that the last Farrow application was involved in interference. A. Yes, sir.

Q. And that you had notified the company of that fact, and that they had instructed you not to proceed with the interference—to prosecute the case under this interference. Will you state if you intended to prosecute this patent after this interference had
45 been decided any further? A. I will say that after I have time to carefully consider the matter, I will decide as to whether I will prosecute the application involved in interference.

Q. Then I understand it is your opinion some limited patent may yet be allowed Mr. Farrow on both of these applications. A. I may say one application is allowed, limited to specific claims; the other application, which application was involved in interference, I will not give an opinion as to whether or not limited or specific claims may be secured at this time, but I will say that such claim or claims might possibly be secured.

Q. Do you think it worth while, in your opinion, to prosecute any further the application now involved in interference? A. In my opinion, all the essential claims and claims of material scope have been decided against us, and that the said claims have now been rejected since the applicant was defeated in the interference cases A, B, and C.

Q. Then do I understand it that it is possible for Mr. Farrow to have allowed him on both applications, but they would be of so limited a nature that in your opinion they would be valueless? A. I have testified that claims of a limited nature have been allowed in one application, and that the substantial claims of the application involved in the interferences have been rejected. I will not say

that any claim or claims will be allowed in this last-named application, if the said application is prosecuted further, but, as I have before testified, I say it is possible a limited claim or claims might be procured by further prosecuting the said last-named application.

Q. Are you familiar with the answer filed by the Eclipse Bicycle Company in this action? A. No, sir.

Q. Will you please state if any action was ever taken by you, looking to the obtaining of foreign applications? A. Yes; foreign applications were made.

Q. Do you know about what time? A. I think in the summer of 1897—the latter part.

Q. Are you familiar with the rules of the Patent Office? A. Yes, sir.

Q. Will you state if there is a rule of the Patent Office which would prevent Mr. Farrow from communicating with the office on account of the fact that he had sold out his entire interest to the Eclipse Company? A. Well, the practice of the Patent Office is to prevent any one from having access to the application records, except the applicant or his duly authorized attorney, and when an assignment is made by an applicant of his entire right, title, and interest the Patent Office may, under its present practice, prevent applicants from having access, having sold their right, title, and interest.

(Cross-examination of witness reserved.)

46 EDWARD G. CURTIS, a witness of lawful age, called by and on behalf of the complainant, being first duly sworn, is examined—

By Mr. GITTINGS:

Q. What is your business and profession? A. I am private secretary to Colonel Britton.

Q. Do you know the plaintiff in this suit, Mr. Farrow? A. Yes, sir.

Q. Do you know the nature of this suit? A. Only generally, merely. I don't believe I do apprehend exactly what it is for.

Q. You are familiar with the brake known as the "Farrow brake," are you not? A. I have used it for upwards of two years—nearly that long and maybe more.

Q. Having used it for two years, is the device practical in your opinion? A. Entirely so; that is my experience with it.

Q. Where did you get it? A. Mr. Farrow put it upon a wheel that I have; in fact, it was put on two different crops. The same device was transferred from one wheel to the other.

Q. What is the nature of that device? A. Do you mean the brake?

Q. Yes; can you describe it? A. Only generally; it is a brake

that is pulled against the rear tire by means of a rod, which, with a dog, locks in the chain upon back-ped-ling; of course that is to be through what I have always called a loose sprocket on the rear wheel. I should think that would define that sprocket as well as anything.

Q. How long have you been using a wheel? A. I do not know definitely, but I think it is about two years now; perhaps a little later than this.

Q. I mean how long have you used a wheel without this device? A. Three or four years before I had this put on.

Q. Are you familiar with the brake *d*-own as the "Morrow brake"? A. Only as I have seen it on the streets; then Mr. Laskley explained it to me in his store at one time.

Q. What is the difference between them if you know? A. The difference I should define as being in the front sprocket. The brake is made to apply to the tire through a loose front sprocket that operates, as I understand it, very much as the rear one, only in the opposite direction and is pulled directly against the tire without the intervention of the locking with the chain.

Q. In one the chain revolves after the brake is applied and in the other the chain is locked? A. I don't know about that.

47 In mine it did not revolve and in the other he has to back-pedal with it, and it does not run when the brake is locked upon the wheel.

Q. You say you have used it for two years? A. I should judge it has been something like that. I do not recollect exactly, but I could find *any* definitely if there is any object in it.

Q. And you consider it practical in every way? A. It has been.

Q. Maybe you can define it better in number of miles? A. I think I have ridden it somewhere from four to five thousand miles.

Cross-examination.

Mr. MACKALL:

Q. You say Mr. Farrow put this brake on that wheel? A. Yes, sir.

Q. You do not know anything about who invented it except what he said? A. Only from hearsay. I have no other means of knowing, but I had known it long before I put it on my wheel. I knew of it as Mr. Farrow's.

Q. From the same source? A. From other sources. I did not think well of it at first and it was some time before I had it put on my wheel.

Q. Are you an experienced patent man? A. No, sir; nothing whatever to do with patents.

Q. And you are not familiar with inventions? A. Only in a general way, as any man is who is more or less a mechanic and civil engineer.

Q. You have no special information on that subject? A. Except

as one gets generally. My profession has been that of civil engineer.

Redirect examination.

By Mr. GITTINGS:

Q. You stated on cross-examination, in answer to a question of Mr. Mackall's, that you are a civil engineer. A. I am not practicing it here, however, except——

Q. And have some mechanical knowledge? A. Yes, sir.

Q. Have you had anything to do with mechanical engineering? A. No; only in a general way; that is a very different thing from civil engineering.

Q. You are more or less familiar with mechanical engineering, are you not? A. Yes, sir.

Mr. Mackall here announces that he waives the right to cross-examine the witnesses previously examined.

48 HENRY P. DOOLITTLE, a witness of lawful age, called by and on behalf of the complainant, being first duly sworn, is examined—

By Mr. EARLE:

Q. What is your name, residence, and occupation? A. Henry P. Doolittle, 2022 Hillyer place, attorney-at-law and solicitor of patents.

Q. What experience have you had in the practice before the Patent Office? A. I have been engaged in practice before the Patent Office for the past five years as assistant to my father, William H. Doolittle, and on my own account. I have prepared and prosecuted many applications for patents and am familiar with interference procedure in the Patent Office, and among the applications I have prepared and prosecuted have been a number relating to back-pedaling brakes for bicycles and other improvements in bicycles.

Mr. EARLE: I offer in evidence certified copies of file-wrappers and contents, drawings, in application of W. H. Farrow—serial No., 600,359—filed July 24, 1896, to be marked Complainant's Exhibit-3 and 4, W. M. F.

Q. Have you examined and are you familiar with the contents of application No. 660,359, of which these are copies? A. Yes, sir.

Q. I find that the application was filed July 24, 1896, and that on October 20, 1896, the Patent Office wrote a letter to Farrow, in which it is stated "applicant is attempting to claim three distinct and independent inventions in one application," specifying in what claims the different inventions were separately claimed and requiring applicant "to limit himself in one of the above inventions." Will you please state why this requirement was made by the Patent Office? A. Because it is the rule of the Patent Office that only one

invention can be claimed in a single application, or, to state the rule more explicitly, only one device or one improvement embodying the invention can be specifically claimed.

Q. Will you describe briefly the devices set forth in the claims of this application which the examiner states to be separate inventions?

The WITNESS: In claims 1, 2, 3, and 4 there is claimed a coasting mechanism alone. This coasting mechanism consists of an extension hub formed on the hub of the rear wheel of the bicycle, a sprocket rim loosely mounted thereon, having automatic clutching devices between the same and the extension of the hub and means for retaining the clutching mechanism from engagement, which means are controlled by mechanism adapted to be operated by the bicycle rider. In the 5, 6, 7, 8, 11, and 13 claims there is claimed a combined coasting and brake device for bicycles, consisting of the sprocket rim mounted on the hub so as
49 to rotate thereon, and a brake-spring also mounted on said hub and controlled by the backward movement of the brake-spring, so that when the sprocket wheel is rotated backward, in back-pedaling, the spring will be thereby contracted around the hub and thus apply the brake. In the 9, 10, and 12 claims there is claimed a modification of the brake-spring. In this modification the brake-spring is lo-sely and concentrically mounted upon the extension hub and the sprocket rim is mounted concentrically upon the brake-spring—that is to say, the inner periphery of the sprocket rim is inclined, and the thickest portion of the sprocket rim is adapted to contact with the thin-er section of the brake-spring when the sprocket rim is moved backward. By this construction, on back-pedaling, the brake-spring is carried back by the sprocket rim and contracted upon the hub to apply the brake. In both the constructions set forth in claims 5, 6, 7, 8, 11, and 13 and in claims 9, 10, and 10 the clutch mechanism by which the sprocket wheel may be released from and engaged with the hub may consist either of screw-threads on the hub and corresponding screw-threads in the sprocket rim, or it may consist of friction and roller clutches between the sprocket rim and the hub.

Q. Then, if the examiner's requirements should have been complied with, how could the inventions stricken from the application have been protected? A. By filing separate applications on those inventions.

Q. Were any separate applications filed? A. Not to my knowledge.

Q. In your search would you have found them in your examination of this matter in the Patent Office if they had been filed? A. No; I could not. Applications are kept secret in the Patent Office.

Q. In complying with the examiner's requirements, to what one of these inventions was the application restricted? A. On July 7, 1897, the application having been assigned to the Eclipse Bicycle Company, and Mr. J. L. Skidmore having been appointed attorney, a substitute specification was filed. In this application the claims

were confined to the combined braking and coasting mechanism, the brake mechanism consisting of the brake-spring connected with the sprocket rim and operated by the backward rotation of the sprocket rim. The specific forms of the brake-spring and of the mechanism for operating the same were not claimed in that application. An attempt was made to claim the clutch device alone, but this claim was subsequently cancelled.

Q. The two inventions that were stricken out, will you give your opinion as to their probable patentability? A. I am of the opinion that both of these inventions were probably patentable. The examiner in his action cites references to the claims covering these inventions, but those references do not show the whole construction of each invention. I am unaware of any other patent in the previous state of the art that would anticipate these inventions.

50 Q. Referring to Exhibit 3, I find a letter from the Commissioner of Patents, dated January 7, 1898, stating that the application had been allowed. What claims were embraced in this application? A. The five claims shown in the record as uncanceled.

Q. What do those claims cover and secure to the applicant? A. If find in the first of these claims there is covered broadly a coasting and braking mechanism for bicycles, consisting of an expansible brake-spring mounted on the hub of the rear wheel, the sprocket rim being mounted upon the brake-spring and means for clutching the parts together for braking and coasting. The remaining claims are also broad, but they cover more specifically the various constructions that form part of the mechanism that is broadly claimed in the first claim. The operation of this brake is as follows: When the rider desires to coast, the feet and the pedals are held still, when the clutch mechanism, normally connecting the sprocket rim and hub of the rear wheel, is disengaged from connecting with these parts and permits the hub to revolve freely, while the sprocket rim is held still. When it is desired to apply the brake the rider back-pedals, which forces back the sprocket rim on the hub, and by means of a detent, connecting the sprocket rim with the brake-spring, pulls the latter backward, winding it up, and thus contracts it upon the hub of the rear wheel so as to apply the brake. The claims, however, are not limited to a brake-spring that is adapted to be wound up, but a brake-spring that may be expanded against part of the rotating hub is also covered by these claims.

Q. What remained to be done to obtain a patent on the application 600,359? A. Nothing remained to be done except to pay a final Government fee of $20, after the payment of which the patent would have been issued in about twenty days.

Q. What, in your opinion, is the value of this patent that has been covered as you have described? I do not mean the intrinsic value, but I mean the value considering the previous state of the art.

The WITNESS: In my opinion the invention is a very valuable one. The idea of a brake-spring applied to the hub of the rear wheel and actuated by the back-pedaling of the rider, in combina-

tion with the coasting mechanism, appears to have been at the date of this application a novel one, and also appears to be broadly protected in the claims allowed. If it should be found in practice that the application of the brake-spring to the hub would not produce sufficient force to retard the wheel, it is obvious that this defect might be remedied by changing the metal of the spring, as, for instance, making the spring of softer metal, or it might be possible to provide a construction by which the spring would have to act against an increasing power, as in the case of a cone-shaped extension of the hub around which the spring would contract. Both of these constructions are within the scope of the claims allowed. This brake, since it does not operate of the tire of the wheel, thus obviates the disadvantages connected with a brake so operating, which consist principally in the wear and tear applied to the tire and the soft and yielding surface offered to the brake-shoe employed in brakes that are applied to the tire. Subsequent to this application there have been many applications for patents filed on improvements embodying the idea contained in these claims, thus showing that inventors have appreciated the value of this idea and have sought to adopt the same.

51

Mr. EARLE: I offer in evidence certified copies of file-wrapper and contents, filed December 1st, 1896, No. 614,140, to be marked Complainant's Exhibits 5 and 6, W. M. —.

Mr. MACKALL: I object to them as immaterial and incompetent.

Q. Referring to this exhibit, I find that on January 22, 1897, the examiner wrote a letter to Farrow in which he states, "Applicant is attempting to claim two distinct and independent inventions in one application. First, that shown in figures 1 to 7, inclusive, and covered by claims 3, 4, 5, and 6; and, second, that shown in figures 8 to 11, covered by claim 2. For this reason a division is hereby required." Will you please describe briefly the different inventions that are named in this application? A. For convenience, I will designate the inventions covered by 3, 4, 5, and 6 by "A" and that covered by claim 2 by "B." The device A consists of a combined coasting and braking mechanism. Any suitable coasting mechanism may be employed, but the construction that was shown and described in the amendment filed July 7, 1897, in accordance with the requirement of the examiner that some specific construction of a coasting mechanism should be shown, consists of roller clutches like those for the same purpose shown in the application No. 600,359, consisting of inclined recesses in the hub and rollers therein which clutch the sprocket which engages on forward propulsion of the latter so as to bind the hub and sprocket together. The braking mechanism consists of a pivoted mortise lever or hood embracing the upper run of the chain and having a pivoted tooth or pawl. To the hood is connected a rod which carries at its end a brake-shoe adapted to bear against the tire of the latter. To coast, the feet are held still and the rollers of the clutch run back to the deepest parts of the inclined recesses, permitting the hub and driving wheel to

revolve, while the sprocket wheel remains still. To apply the brake, the rider back-pedals, checking and turning backward the driving chain, thereby causing the upper run of the chain to slacken and drop down upon the pawl and engage the same. The pawl, being pulled back by the action of the chain, pulls back the hood and rod and applies the brake.

The device B consists of a coasting mechanism combined with a different form of brake mechanism. In this device the brake is applied directly by the front sprocket wheel. A rock-shaft is journalled in a hanger secured to the frame in front of the driving wheel, and an arm carrying a brake-shoe is attached to the rock-shaft.
52 To the end of the rock-shaft is secured a strong lever, the end of which is adapted to project into the circle of the movement of the sprocket wheel. On the end of the lever and projecting beyond the same are spring guides of disk form, adapted to embrace and press slightly on the sides of the sprocket wheel. These guides are flared outwardly so that when the sprocket wheel is going forward the guides will contact but slightly with the sprocket wheel, but when back-pedaling is applied the guides are engaged by the backwardly moving sprocket and carry down the lever into the line of the teeth, one of which strikes the lever and applies the brake. A second and longer lever on the rock-shaft is adapted to engage the succeeding tooth of the wheel, and thus prevent further application of the brake, by which means the power of the brake may be limited and jamming of the same is prevented.

Q. What became of claim 2, covering the invention which you have designated as "B" in the further prosecution of the application? A. It was dropped and a substitute specification was filed on July 7, 1897.

Q. In your opinion, what is the probable patentability of the device claimed by claim 2 that was dropped? A. I am of the opinion that it was patentable. The examiner cited no references to claim 2, and none of the references cited to the other claims of this application nor to the claim of the other application show the subject-matter of this claim, and I know of no other patents that show it. I think it is possible that even a broader claim than claim 2 might have been obtained on the construction set forth in this claim.

Q. What is your opinion of the practicability and value of the device covered by said claim? A. In my opinion the device is not only practicable, but productive of highly advantageous results and of great value. Great power can be applied by this brake by means of the sprocket wheel acting directly on the rock-lever. Its application is not dependent upon the chain. The hanger is adjustable so that the pressure to be applied can be fixed at a certain limit. The additional lever which forms a fork with the brake-shoe lever also limits the pressure applied to the brake. By this means too violent an application of the brake, so as to injure the tire or jam the wheel, is prevented. I believe the invention to be thoroughly effective for accomplishing the purposes for which it is intended, and to be very valuable.

Q. In your opinion, would an inventor or owner of an invention similar in its nature and of the same relative importance as the invention covered by claim 2, said inventor or owner being acquainted with the state of the art to which the invention related and using ordinary diligence and care to protect his property in the invention, have filed another application for patent on that invention? A. Most decidedly he would have done so.

Q. In the application, as it was originally filed and as it
53 remained until July 3, 1897, which do you consider, device A or B, as the essential part of the invention or inventions in said application? A. Neither device, A nor B, alone, can be said to have been the essence or essential part of the invention or inventions. They were distinct, equal, and co-ordinate inventions, and one was just as much a part of the improvement covered by the application as the other.

Q. Then was original claim 2 an essential claim of that application? A. Yes, sir.

Q. Will you refer to device A, in Exhibit 5, and state briefly what was further done in prosecuting the claims on that invention? A. On July 7, 1897, the application having been assigned to the Eclipse Bicycle Company, and Mr. Skidmore having been appointed attorney, a substitute specification was filed, from which the subject-matter of claim 2 was eliminated. The examiner required some of the claims to be canceled on the ground that they were substantially the same as others. These requirements having mostly been complied with, on November 3, 1897, the Patent Office declared three interferences with claims 1, 2, 3, 5, and 6 of the six claims then in the application. These interferences were decided against Farrow, and, as a result, the examiner, on September 1, 1898, rejected claims 1, 2, 3, and 6, on which judgment of priority had been rendered against Farrow, and also rejected claim 4, on the ground that it was not patentable over these other claims. This action left claim 5 in the application. Since this action nothing has been done in the case by either the Patent Office or applicant, so far as I am aware.

Mr. EARLE: I offer in evidence copies of interference records, to be marked Complainant's Exhibits 7, 8, and 9.

Q. Referring to Exhibit 7, what was the termination of this interference No. 19092? A. The interference was decided in favor of the party Little, whose date of application was prior to the dates of conception of the invention in interference by the other parties to the interference.

Q. What was the termination of this one, No. 19093? A. This interference 19093 was decided in favor of Phillip-, one of the parties to the interference, on August 5, 1898.

Q. Do you know whether Farrow was represented in the taking of testimony on behalf of Phillips? A. The Patent Office records which I have examined show that he was not represented.

Q. Then there could be no cross-examination of the witness who testified for Phillips? A. No.

Q. In Exhibit 9, record of interference No. 19094, the issue set forth therein is stated by the examiner as claim 21 of Phillips and
54 to be generic to claim 5 of Farrow. What is meant by this term "generic" in this connection? A. It means that the issue covers broadly a certain genus or class of inventions of which there may be different forms or species, and that claim 5 of Farrow is drawn to one of the forms or species of that genus or class. The specific constructions of Farrow and Phillips embodying the subject-matter of the issue of the interference differed, and the issue covered both instructions, but Farrow's claim was drawn to his specific construction.

Q. What practice now exists as to the declaration of an interference between generic and specific claims? A. Interferences are not now declared between such claims, because of the practice established by the present Commissioner of Patents in the case of Hammond *vs.* Hart, decided April 25, 1898, reported in 83 Official Gazette, page 743. In that decision it was held, among other things, that, in conformity with the practice in the United States courts in suits between interfering patents, an interference did not exist between generic and specific claims because such claims do not conflict. Even before such decision, however, according to a rule of the Patent Office, in any interference with a generic claim the opponent party having the specific claim could file a disclaimer which was embodied in his application, disclaiming the subject-matter of the generic claim and restricting himself to the specific claim, whereupon the interference would be dissolved and the applicant would be allowed to take out his patent on his specific claim.

Q. Would that practice—the practice that you have described—apply to the interference No. 19094? A. Yes, it would apply, as appears on the face of the examiner's statement.

Q. What would have been gained by the dissolution of this interference? A. Farrow could have had his application allowed. He could have withdrawn from a losing fight and taken out his patent at once on the claims then in the application, the interference 19093 being already practically settled against him.

Q. When would it have been possible to make a motion for a dissolution of that interference? A. The motion could have been made either directly after the decision in Hammond *vs.* Hunt or it could have been made at the final hearing before the examiner of interference-.

Q. Referring to Exhibit 9, I notice that on August 5 the examiner of interference- states that judgment of priority of invention is awarded to William A. Phillips. What then became of Farrow's application? A. The claims, with the exception of claim 5, were rejected in accordance with the judgment in the interferences. Claim 4, which had not been in interference, was rejected as not being patentable over the matter of the other rejected claims. This action left claim 5 practically allowed, as all claims that are not specifically rejected are presumed to be allowed.

55 Q. Then the examiner allowed what might have been obtained several months before by action? A. Yes, sir.

Q. Take claim 5, what is the scope of this claim in the application? A. It covers a combination with the coasting mechanism of a brake-shoe for the tire of the rear wheel, a pivoted mortised lever or hood through which the chain runs, a pawl in the lever which the chain is adapted to engage on slackening, and means connected with the lever and brake-shoe for applying the brakes. The element that gives the claim patentable novelty is the pivoted lever or hood through which the chain runs and which is provided with a pawl for engaging the chain when the latter slackens so as to thereby apply the brake.

Q. Could any other claims be obtained in this application? A. It might be possible to draw another claim that would distinguish from the reference and the issues in interference.

Q. When was it possible to know what would be the probable outcome of these interferences and the result of the claims in said interferences? A. It was impossible to know this in any of the interferences before the apprival and opening of the preliminary statements of all the parties. The date of the approval of the statements was December 18, 1897. In interference- 19093 and 19094 it was impossible to tell what the probable outcome would be until Phillips had taken testimony to support his preliminary statement. Part of Phillips' testimony in each interference was filed in the Patent Office *was* January 22, 1898. The complete printed records were not filed until March 24, 1898, and March 28, 1898.

Q. Have you examined and are you familiar with the back-pedaling brake made and used by the Eclipse Bicycle Company? A. Yes, sir.

Q. I hand you copy of patent No. 611,073 to A. P. Morrow. Will you please state if that is the same as used by the Eclipse Bicycle Company? A. It is.

Q. Will you describe briefly the difference between the Morrow and Farrow forms of brakes? A. Both in the Morrow brake and all the forms of the Farrow brake there is shown the clutch mechanism on the rear wheel to permit coasting, but this is independent of the braking mechanism. Farrow in the device shown in his first application, in order to brake the wheel on the rear-wheel hub, applies the pressure of a spring operated by back-pedaling through any of the various means which are shown in that application. In his second application Farrow, in the device which I have designated as A, presses a brake-shoe against the wheel tire by means of the pawl lever or hood which the chain engages. In device B he presses the brake-shoe against the tire by a lever engaging
56 the teeth of the front sprocket wheel. Morrow merely applies the clutch of the rear-wheel coasting mechanism to the front sprocket wheel in order to apply the brake. He has a ring mounted on the shank of the crank and a clutch between these parts, arrange- so that the clutch will bind the crank and bring together on the backward movement of the pedals, turning the ring

backwards and forcing down a pivoted lever connecting to the ring, which lever forces the brake-shoe against the tire of the rear wheel. The brake-clutch in the Morrow device adds to the number of parts and is liable to get out of order and increases the expense of manufacturing the brake. Farrow does not have this feature. His brake is simpler in construction than Morrow's and has fewer parts. Any advantage that may be obtained by the application of Morrow's brake mechanism to the front sprocket wheel is also obtained by the device B, which was eliminated from the second application. This device does not have the clutch shown by Morrow, and is more simple in construction and capable of a greater power. In the Morrow brake if the same is applied too strongly the wheel will be jammed so tightly that it must be revolved by hand so as to unlock it. This is especially the case when, in dismounting, the foot of the rider leaves the pedal when the latter is in its rear position, thus applying the brake with the full weight of the rider. In the Farrow device B the jamming of the brake is prevented by limiting the extent of the power of application by means of an additional lever engaging the sprocket tooth succeeding the one that is actuating the brake movement. All the devices, both of Morrow and Farrow, are operated in the same manner by the rider.

Q. Have you examined, at the Patent Office, the contents of the file of the Morrow patent, and are you acquainted with the reference, if any, cited against the claims in Morrow's application? A. Yes, sir.

Q. What is, in your opinion then, in view of the previous state of the art, of the comparative scope of the claims allowed to Farrow in the first and second applications and those which might have been allowed on the devices that were eliminated from those applications? A. It was impossible for either Farrow or Morrow to obtain broad claims on the combined coasting and braking device operated by the pedals. This idea was old, as shown in the Stover and Hance patents, No. 418,142, of December 24, 1889, and British patent to Juhel, No. 8833 of 1895. The clutch used by Farrow and Morrow for coasting and by Morrow for applying the brake was old, as shown by the Stover and Hance patent, the Juhel patent, the British patent to Hartley, No. 19608 of 1890; the United States patent to Moise, No. 533,912, and the German patent, 91559. The only feature in Morrow's device that gives patentability to his claims, if they can be considered properly patentable at all, which is very doubtful, are the particularly constructed levers carrying the brake, the pivot bolt, the slotted arm of the ring, and the particular arrangement of these parts. The claims in the Morrow
57 patent are very narrow and are restricted to small mechanical details. The patent is therefore weak and restricted. In the Farrow applications, the claims of the first application which was allowed are broad, and, in my opinion, valuable. I have already explained their scope. Other broad and valuable claims might have been obtained on the other inventions that were eliminated from this application.

In the second application, the claim now remaining covers just as broadly Farrow's construction A as Morrow's claims cover his construction. As to device B of the second application, a broader claim than claim 2, drawn on that device, could have been obtained. I know of nothing in the previous state of the art that would prevent the granting of such a claim. The claim that might have been obtained on this device would have been much broader and more valuable than Morrow's claims, because the subject-matter of that claim differs more from the previous state of the art than do Morrow's claims. Morrow's device is similar to that of Stover and Hance, and his claims are much more restricted, and his (Morrow's) claims are much restricted by their patent. While all the devices of Farrow differ in many essential ways from the Stover and Hance patent, Morrow employs the clutch on the front sprocket to operate the brake just as Stover and Hance do, but Farrow employs a different construction. For this purpose, in device B, Farrow has all the advantages that either Stover *and* or Morrow obtained by applying the brake on the front sprocket wheel, but he dispenses with the complicated mechanism employed in both of these patents for the purpose of applying the brake.

Q. Have you used and tested the Morrow brake and the Farrow brake in the form the Farrow brake is shown in device A of the second application? A. I have used and tested the Morrow brake and have used and tested the Farrow brake in the form the latter is shown in the device designated as A.

Q. How do they compare in operation? A. The devices are the same in operation, and they are practically the same in effectiveness. To coast, the feet and pedals are held still and the driving wheel revolves on the rollers between the wheel and the rim, but to apply the brake the rider back-pedals and the brake-shoe is carried against the wheel tire with the force proportionate to that exerted by the rider.

Mr. EARLE: I wish to state, in answer to the objection of Mr. Mackall, that this is offered as additional evidence as to the similarity of the result to be obtained by the two devices.

Q. Referring to the copy of the patent to Stover and Hance, I wish to ask you if there is any infringement of that patent by the Morrow and Farrow devices, or by either.

Mr. MACKALL: I object to the question as immaterial.

58 A. There is a clear infringement of the fourth claim of that patent by the Morrow device. The Farrow devices probably also infringe, but this is a matter of some doubt and would depend on the judicial construction of the 4th claim in the light of the previous state of the art. I would state here that the Stover and Hance patent has several defects which are overcome by the Farrow device: First, the application of the power on the lug of the brake-lever in the Stower and Hance patent being so near the fulcrum of that lever, it would require great power to apply the brake

with effective force. This disadvantage is overcome by the long power leverage obtained in each of Farrow's constructions; second, the Stower and Hance brake must be open to the air, and thus collects the dust, which is not the case with the Farrow brake.

Cross-examination of HENRY P. DOOLITTLE.

By Mr. MACKALL:

Q. What is your age? A. I am twenty-four.

Q. How long have you been actually practicing before the Patent Office? A. For about five years.

Q. You were practicing during this time in connection with your father? A. For the main portion of that period.

Q. Have you ever conducted a case before the Patent Office without his assistance, advice, and so on in the matter? A. Yes, very many cases.

Q. You are still in the office with him, are you not? A. Yes; I am still in his office.

Q. How many cases have you prosecuted alone and without your father's co-operation in the bicycle field? A. That would be a pretty difficult question to answer definitely, but I would estimate the number between twenty and fifty.

Q. These cases, I understand, were prosecuted by you individually and independent of your father? A. Yes; but in the firm name of my father and my brother.

Q. Do you know Mr. Skidmore, who has testified in this case? A. Yes; I am acquainted with Mr. Skidmore.

Q. Is he an experienced patent attorney and a man of ability in his profession? A. Yes; he is, in my opinion.

Q. Do you know who filed the applications that you have referred to in your testimony on behalf of Mr. Farrow? A. They were filed by Mr. Farrow, I presume, from the record in the applications.

—. ——. A. I suppose not. The records will show as to the exact date when Mr. Skidmore became interested in these applica-
59 tions and took charge of them. Of course, I am not informed of any communications respecting the application that may have passed between the inventor and assignee outside of the Patent Office record.

Q. Speaking of the first application of Mr. Farrow, you testified that he was required by the Patent Office to limit himself to one of the inventions claimed in the application. That, I understand you to say, is consistent with the rule of the Patent Office? A. Yes.

Q. When a number of claims were made in one application and objection of that kind is made at the Patent Office, would it not be usual for the inventor and his lawyer to talk the matter over and determine what particular claim or claims they should limit their application to in order to comply with the rules of the Patent Office? A. Yes; it would be customary for the inventor and his attorney to discuss the matter as to what particular claim or claims the particular pending application should be limited to. It would also be

customary to discuss any of the additional applications the other claims should be embodied.

Q. I assume that you in a case of this kind, after talking the matter over with your client, would not file other or additional claims then he assented to, would you? A. No; I would not.

Q. As I understand from your testimony, all the claims made by Farrow in his applications and all the claims made by Morrow in his application are dominated by a prior invention by Stover and Hance and other inventors? A. All of the claims of Morrow's patents are restricted by the previous patent to Stover and Hance and other parties. Many of the claims of Farrow's applications are also so restricted. As far as the broad idea of a combined braking and coasting device or the broad idea of a back-pedaling brake are concerned, neither Farrow nor Morrow could obtain a claim on such constructions, as those ideas were old, as shown in the Stover and Hance and other patents.

Q. As I understand it, their claims must necessarily, if allowed at all, be limited or what we call limited claims, restricted to a particular form of constructing the device referred to? A. As stated in the last answer, neither party could obtain a broad claim on a back-pedaling brake nor a combined coasting and braking device, but each would be entitled to claims or the means for carrying out such ideas, provided these means were different from those shown by the different patents.

Q. Then, as I understand it, neither of them could secure what is called a broad claim? A. The term "breadth" or "scope," as applied to a claim, is a comparative one. Neither party could obtain a broad claim covering any construction for a back-pedaling brake or for a combined brake and coasting device; but in the Farrow applications broad claims were allowed on his construction em-
60 bodying such ideas—that is to say, the constructions shown in those claims or their equivalents are not found in the previous patents.

Q. Have you examined the Stover and Hance patent? A I have.

Q. You regard that as a valuable patent, do you not? A. I have not examined the validity nor have I carefully examined into the scope of the claims, but from the examination I have made I believe the patent to be a valuable one.

Q. You say you have not examined carefully into the scope of the claims in that case? A. Not carefully in connection with the restrictions that might be placed on the claims in view of the previous state of the art. I have merely examined into the scope of the claims as it appears from the face of the patent.

Q. You have considered the relative scope of these claims, have you not, and the claims about which you have been testifying? A. I do not think that is proper cross-examination anyhow. I do not believe I have considered the relative scope of the Stover and Hance and the Morrow and Farrow claims. When scope of claims is considered relatively it must be considered with respect to some third

patent or some device which it is claimed infringes the claims under consideration.

Q. In expressing your opinion as to the patentability and prosecution of the Farrow claims, have you taken into consideration the extent and scope of the claims covered by the Stover and Hance patent? A. Yes.

Q. If Mr. Farrow went to Mr. Skidmore after these interferences had been declared and discussed the matter with him and ascertained from Mr. Farrow that he could not overcome the questions of time raised in these interferences, would you, under the same circumstances, have done other than Mr. Skidmore did in this case? A. Never having been placed in those circumstances, I am not able to say how I would have conducted the prosecution of the case, but I would state that some matters that might have been done in the prosecution of the applications and interferences are set forth in my direct testimony.

Q. You state, on page 58, that if the dissolution of these interferences had been dissolved in the manner you suggest, Mr. Farrow could have had his application allowed and withdrawn from a losing fight. What do you mean by that? A. It was apparent from the records of interference, as shown by the dates of the filing of the respective applications and the preliminary statements of the parties, that Farrow could not reasonably expect to win in this interference.

Q. Please state why he could not win. A. Because the dates of conception of invention and reduction to practice as alleged by some of the other parties were prior to the same dates alleged by
61 Farrow, and in one of the other interferences the date of application of an opponent party was prior to the date of the reduction to practice by Farrow. Had these prior dates, as alleged by the opponent parties, been established by testimony Farrow would have been unable to go back of them.

Q. What do you mean in the same answer when you say that if the interference had been dissolved Farrow could have taken out his patent at once on the claim then in the application? A. All claims at the time of the declaration of interference must be allowed, therefore these claims that were not put in interference were allowed, and a patent could have been taken out thereon by proper action on the part of the applicant.

Q. Then, as I understand it, you mean to say that the claims in the application not involved in interference would have been allowed? A. Yes.

Q. When did you say that a motion for dissolution could have been made? A. A motion could have been made in the first instance twenty days after the notices for taking the testimony had been sent out, or, in view of the case of Hammond *vs.* Hart, it might have been made after that decision, although the twenty days had expired.

JAMES L. SKIDMORE, a witness on behalf of the complainant, recalled by and on behalf of the defendant for further cross-examination:

Mr. GITTINGS: I object to the recalling of Mr. Skidmore for further cross-examination on the ground that he was the first witness in the case and cross-examination was waived by Mr. Mackall, and, further, that we had closed our case.

Mr. MACKALL: It was understood at the time that Mr. Skidmore's testimony was taken that I should have the privilege of cross-examining him at any subsequent session in this case.

By Mr. MACKALL:

Q. It is charged in the bill filed in this case that the defendant failed to take proper steps for the prosecution of the complainant's alleged patent rights. Will you please state whether or not this statement be true? A. It is not true.

The WITNESS (continuing): It is not true. To the contrary, I personally took all necessary steps to the best of my ability to protect and prosecute Farrow's inventions in the best manner possible.

Q. Did you consult with Mr. Farrow during the course of your attention to this matter? A. I did many times on all material and important points.

Q. Did he approve your course and conduct of the prosecution of his claims? A. He did.

62 Q. Will you please state whether or not all the substantial claims made by Farrow which constituted the subject-matter between him and the company were finally rejected by the Patent Office? A. They were.

Q. Did these rejected claims constitute and cover the consideration in said agreement? A. They did.

Q. Do you mean by that to say that Mr. Farrow failed to secure patents for the inventions contemplated in the contract? A. I do.

Q. Will you please state to what such failure was due, in your opinion? A. Such failure was due to the fact that prior patents and applications were in the Patent Office—that is, patents had been granted which covered all the essential parts and gist of Farrow's inventions, and, further, applications were on file in the office prior to Farrow's.

Q. Then as I understand it, in your opinion, based — an intimate knowledge of all the facts, do you consider that there was or was not a total failure of consideration on the part of Farrow under said agreement?

Mr. GITTINGS: I object to the question on the ground that it is not proper cross-examination.

A. In my opinion there was a total failure on the part of Farrow to furnish the consideration.

Q. Will you state whether or not there was any attempt on the part of the officers of the defendant company to defeat, destroy, or

in any way injure the rights and alleged claims of Farrow? A. In my knowledge there was not.

Q. Can you tell us why The Eclipse Company, the defendant in this case, caused the manufacture and sale of the Farrow brake? A. To my knowledge they never started the manufacture of the brake, except to make about ten or fifteen, then they were made aware of the existence of the patent to Stover and Hance, granted, I think, in 1889, which patent covered the substantial claims of the Farrow invention. The company then sought to purchase said patent in order to protect their rights, and finding that Farrow was not the real inventor of the improved claims and the substantial claims of his invention, they were, of course, aware of the fact that they would be afforded no protection whatever, except by the purchase of Stover and Hance patent, which was a prior invention and a patented invention, and therefore to purchase the said Stover and Hance patent they would have protection.

Q. It is charged in the bill filed in this case that the patent applied for and subsequently obtained by Mr. Farrow is, in effect, the same device and an improved mechanical equivalent for the Farrow brake. What have you to say as to this? A. In my opinion there is a material difference between the inventions, and especially from a mechanical standpoint.

63 Q. Is there any difference with reference to the patentability, if I use the correct expression? A. In my opinion there is a patentable difference between the two inventions from the fact that the Patent Office granted Morrow a patent over and above Farrow's inventions.

Q. Do you know whether or not Mr. Morrow was an inventor in this particular field prior to the filing of the Farrow applications? A. I do know personally that Mr. Morrow was a meritorious and prolific inventor prior to Farrow's applications, and that he has invented quite a number of devices having reference to bicycles and like vehicles, and that he has procured patents thereon and also has a number of allowed inventions and pending applications for patents.

Q. It is claimed in the bill that Mr. Morrow connived and designed to defeat the complainant's interests under this agreement set up in this case. What, if anything, do you know about this? A. To my knowledge that is not true.

Q. Can you state from your own knowledge whether or not the interest in the Morrow brake was assigned to Mr. Fulton individually or assigned to the defendant company in this case? A. To my knowledge there was a half interest assigned to Mr. H. H. Fulton in person.

COMPLAINANT'S EXHIBITS W. M. F. 3 TO 11, INCLUSIVE, Being Records from Patent Office.

To all whom it may concern:

Be it known that I, Willard Milton Farrow, a citizen of the United States, residing at Morgantown, in the State of West Virginia, have *invented* certain new and useful improvements in coasting and brake mechanism for bicycles, and I do hereby declare the following to be a full clear and exact description thereof reference being had to the accompanying drawings, forming a part of this specification.

Figure 1 is a rear view in vertical section.

Sub. sub. spec.

Figure 2 a section at x–x of figure 1.

Figure 3 a rear view vertical section of a modification.

Figures 4 to 7 perspective views of detached parts of figure 1.

Figure 8 a perspective of a section of the frame and lever.

64 Figure 9 an outline of the frame entire, with the clutch-operating connections.

Figure 10 a rear view vertical section of a modification.

Figure 11 a section at x–x of figure 10.

Figure 12 a rear vertical section of a third modification.

Figure 13 a section at x–x of figure 12.

Figure 14 a section at y–y of figure 10.

& 18

Figures 15, 16, 17 A detached parts of figures 10 or 12.

Figure 1ª a rear section vertically of a fourth modification.

Figure 2ª a side elevation of same with frame removed.

Figure 3ª a side elevation of a fifth modification.

Figure 4ª a detached perspective of brake-spring and lever of same.

Figure 5ª a side elevation of a sixth modification.

Figure 6ª a perspective of the lever 4 of same, and,

[Matter enclosed between rules erased in copy.]

Figure 7* a perspective view of the brake spring of figure 1.

My invention relates to bicycles and like vehicles and to the propelling gear thereof and is in the nature of a device for permitting the instant cessation of the act of pedaling without removing the feet from the pedals the bicycle continuing meantime without shock or jar to go on of its own momentum, and also of a brake that is operated by the pedals whereby the absolute control of the wheel is at all times maintained, the forward propulsion being resumed at will or the wheel almost instantly braked to a full stop. The objects of the invention are to provide a coasting device such as will remove the objection to coasting which is now forbidden by ordinance in all considerable towns and cities. With the solid sprocket and chain gear of the ordinary wheel coasting becomes dangerous in that the rider loses all control of the wheel except by means of the brake and if this becomes ineffective his own safety and that of others is endangered because he cannot regain a footing upon the rapidly flying pedals, or in any manner quickly check his momentum.

For another thing the regular and unvaried working of the pedals become extremely monotonous and irksome when long continued and my invention is designed to afford relief from this by permitting the instant cessation of pedaling at any time and as often as the rider may fancy, the process being accomplished by a sudden stop of the rotation and resting with the feet upon the pedals, and a resumption of forward movement when the coasting is completed. The process is wholly automatic being accomplished without manipulation of any mechanism other than that brought into play by means of the sprocket chain and wheels.

If during the operation of coasting it becomes desirable to stop a single half turn of the pedals backward applies a powerful brake, which acting directly upon the hub of the driving wheel, and to which the entire force of the rider's legs may be applied, supplements the action of the

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ordinary brake to a degree sufficient to almost instantly check the highest speed, the two brakes are therefore the best possible provision for an emergency as it is extremely unlikely that both would ever become inoperative at the same time.

In carrying out my full invention I apply to the hub A of the driving wheel, figure 1ª, an extension hub *a*, and upon this I loosely mount a sprocket rim B. A recess in the hub at a^1 is provided with a double or treble screw-thread in the form of short sections of a female screw, and an annular rim *b* integral with the sprocket rim has a corresponding male screw-thread the arrangement being such that a partial turn of the sprocket rim upon the hub extension brings the rim and hub together so that a further turn of the rim forwardly, as in the act of pedaling, carries the driving wheel with it for propulsion, and so that when pedaling is stopped—the wheel continuing its rotation at once unscrews from the sprocket rim which is held stationary by the chain and pedals, the parts being disconnected or connected by about a third of a turn of the sprocket rim upon the hub extension *a*.

66

An annular recess *p* in the rim, and similarly formed ring p^1 upon the hub A to enter said recess, constitutes a dust and dirt guard to the interior.

A strong steel band or spring D is interposed between the rim B and hub *a*, its inner surface in loose contact with the hub and this constitutes the brace. As shown in figures 1ª, 2ª and 7ª its construction and uses are as follows: It is made to encircle the hub *a* about one and a fourth or more times, overlapping with a wedge or taper of its inner end, though having an outward spring or tension upon the inner bore of the rim so that it loosely though closely fits the hub *a* and rotates easily thereupon. It is secured to rotate with the rim by means of a lip *d*, taking into a recess, and its other or inner end is provided with an extension d^2, projecting at the side by means of which it is caused to engage a latch or detent *e* working into a recess in the frame. A backward

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turn upon the pedals, carrying with it the sprocket rim B and end *d* of the spring, while the end *d*' is rigidly held by the latch *e* and frame draws the spring band D, tightly around the hub extension the friction of the rotating hub strongly aiding the process. The brake may thus be applied with all the strength of the rider or to an extent only limited by the strength of the parts, and the ordinary brake may at the same time be employed in the usual manner. If the sprocket wheels are in direct line when the rim is screwed to the hub the slight sidewise movement out of line when coasting suffices to ensure engagement of the screw-threads at the first forward turn of the rim in resuming propulsion as the chain strongly tends to align itself when under the tension of a strong pull and the entire process is thus wholly automatic. If riding at speed a backward impulse upon the pedals
67 suffices to detach the sprocket rim and hub from the slight frictional hold of the clutching devices and the pedals being held stationary the parts are at once disengaged, the wheel coasting freely of its acquired momentum, or down an incline. From this position a partial backward turn upon the pedals applies the brake, or a partial forward rotation resumes propulsion. In figures 12 and 13 I illustrate a more preferred construction. The hub extension *a* is cylindrical while the bore of the sprocket rim is excentric, so as to approach the hub more closely at the side *b*' and the spring is made thinner at this side, its overlapping ends occupying the narrow part of the annular chamber between the hub and rim, and its opposite side being thickened to fit the wider space. The rim has a limited movement of rotation upon the spring this movement being difined by the length of the recess *b*' in the rim.

When traction is applied to the chain the rim B is turned until the thick part of the spring wedges into the narrowing space between the rim and hub extension, and so grips and carries this with it to propel the wheel,

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and a reverse pull upon the sprocket by throwing the latter backward brings the extremity of the recess b^3 in contact with the lip d and frees the friction grip upon the hub for coasting. If upon forward traction the spring slips upon the cylindrical hub a without securing a grip its contact with the latch e will give the slight check requisite for the purpose.

The extension d^1 of the spring engages a latch e mounted upon a circular disk E which fits upon a squared extension q and is prevented from turning by a flattened extension q^1 of a cone bearing, Q, this flattened extension passing into the fork of the frame, figure 14, and also serving to hold in place the dust-guard S.

A backward turn upon the pedals engages the lip d of the spring and recess, and the extension d^1 of the spring with the latch e.

68 A strong pull backward upon the sprocket rim applies the brake in a manner already described and forward propulsion is resumed by a partial forward rotation of the pedals. This is true of all the modifications shown. In figures 10, 11 the hub and rim are concentric and the overlapping spring is of equal thickness at all points the braking action being that just described while forward traction is secured by a series of friction rollers c, c, c, c which are so adjusted as to prevent forward rotation of the rim; and to permit free reverse movement for the coasting.

In figures 3^a and 4^a the same expedient of friction rollers, c, c, c, c, in recesses in the hub extension are employed to effect the driving of the wheel by clutching the inner surface of the brake-spring when the rim is turned forwardly, and by dropping back into their recesses when in reverse movement, but the brake-applying mechanism is radically different in principle. The spring has two upwardly wedge-shaped bosses or lips d^2 d^2 one near either end and separated but a short distance from each other and these are divided lengthwise for the insertion of a lever F having two transverse pins f f designed to press over the bosses d^2 d^2 and to pull these, and with them the two ends of the

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spring together when applying as a brake. The lever when in normal position as in dotted lines figure 3ª has two depressions f' f' in line with the pins g g in the rim so that these drop freely out of the way of the sprocket chain. When it is desired to coast the pedals are stopped with the left foot advanced thus bringing the pins g g to the front and between the upper and lower parts of the chain this position of the pedals having predetermined the position of the other parts.

The slight effort at freeing the clutches from their propulsive bite is sufficient to carry the spring and lever forward a short distance, or to the full-line position of figure 3ª the tension of the spring as in all other cases being however so adjusted as to oppose no frictional resistance to coasting. A steady backward turn upon the pedals applies the brake by bringing the first of the pins g beneath the chain and thrusting it down upon the lever F the head of the second pin forming a fulcrum for the lever until a further turn backward brings the chain over and at once depresses both the pins and with them the lever the pins f f passing over the wedge-formed bosses and drawing the ends of the spring strongly together and so applying the brake, while a forward turn upon the pedals restores to the dotted-line position the friction clutches at once taking their bite for the forward movement of the driving wheel.

69

Figures 5ª & 6ª illustrate another modification of the excentric rim bore, space at b' and the spring at this point being narrower than at the opposite side. The hub a and inner bore of the spring are cylindrical and from this construction it results that forward traction upon the rim turns the parts to the dotted-line position, the lever H being carried back into the recess b' and the thicker part of the spring clutched by the narrowed part of the space b' so that continued traction upon the rim turns also the hub a and the driving wheel. If now the pedals are stopped the friction of the spring upon the hub brings the parts to the full-line

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position Fig. 5ª and the lever H raises the pin *g* into position to be acted upon by the chain. As before described the position is predetermined by stopping with the pedals horizontal and left foot advanced, the lever and pin being thus located at the front of the wheel and between the upper and lower parts of the chain, the shoulder b^4 and lip *d* are nearly engaged, and the spring is held partially open and the friction relieved by the detent notch *h* of the lever H coming in contact with the shoulder b^3 of the recess in the rim so that the wheel can coast freely in this position. Turning the pedals and sprocket rim backward the pin *g* is depressed by the chain thrusting the lever downward, the rollers h^1 engaging the inclined shoulders of the recess and so forcing the tapered end of the spring beneath the end that is held by the lip *d*, and with the most powerful of all mechanical movements so that the wheel can if necessary be located and prevented from turning if so sudden a brake action were desirable the position of the parts is reversed and forward propulsion is resumed by a quarter turn forward upon the sprocket rim this action being substantially the same in all modifications of my invention.

Figures 1 to 9 inclusive illustrate my invention when the brake is omitted the device being applicable to any wheel where the hub can be screw-threaded or in any manner arranged for the attachment of the hub extension as is shown in figure 1. The rim B and the friction clutches are mounted upon the hub extension, and the wheel is propelled and coasting accomplished in a manner already sufficiently illustrated and described.

This device is however readily converted at will to an ordinary solid sprocket by means of a clutch I, mounted loosely upon the shaft and having a series of pins *i i* which pass through holes in the rim and into coincident holes in the hub A. This clutch is pressed toward the hub by means of a spiral spring L encircling the axle and it is actuated by a centrally piv-

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oted lever J taking into a groove formed in its face the lever in turn being actuated by a wedge M^1 upon its upper end and a like wedge upon the vertically sliding block M to hold the clutch in opposition to the tension of the spring.

When the block M is dropped the spring forces the clutch to engagement with the hub, and if the holes for the pins *i i* happen to be in line the connection would be made at once but the provision of a latch N, which catches and retains the clutch until the rotation of the sprocket rim brings the knock-off detent O into action to depress the latch into its recess and so permit the spring to force the clutch into engagement.

71 The necessity for this last arrangement arises from the fact that if the parts were suddenly connected while rapidly coasting the result would be so violent a jerk upon the sprockets and chain as to endanger the mechanism and almost inevitably throw the feet from the pedals or severely injure the rider, but the latch and knock-off fully guard against this contingency by retaining the clutch from engagement until the rider has resumed the forward pedaling and so has the parts already in motion and under control, but is moreover on his guard against the shock that must follow the connecting of the parts.

The mechanism and its operation will now be understood without further amplification, and while I have shown a variety of mechanical expedients for accomplishing my objects as explained I have by no means approached the limits of the invention as I may greatly change the mechanism for securing the desired results without departing from the basis of my invention, and I claim.

1st. In a coasting mechanism for bicycles the combination of the extension hub, the sprocket rim loosely mounted thereon, and the automatic clutch, all as and for the purposes described.

2. In a coasting mechanism for bicycles the combination of the extension hub having the

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sprocket rim loosely mounted thereupon—the automatic clutch devices interposed between them, and a clutch for securing the sprocket rim to the hub of the wheel, all as described.

3. In a coasting mechanism for bicycles the combination of the extension hub—the sprocket rim loosely mounted thereon the interposed automatic clutch devices, and the lever for connecting the sprocket rim and hub, said lever being spring pressed toward engagement of the parts, and being held from such engagement by mechanism under control of the rider, all as set forth.

4. In a coasting mechanism for bicycles
72 the extension hub—the sprocket rim—the automatic clutches and the spring-pressed clutch and lever with its releasing mechanism in combination with the latch for retaining the clutch from engagement and the knock-off for depressing the latch, all as and for the purposes described.

5. In a coasting and brake device for bicycles the combination of the extension hub the brake-spring loosely encircling the same, and the sprocket rim loosely mounted upon the brake-spring, all as and for the purpose set forth.

6. In a coasting and brake mechanism for bicycles the combination of the extension hub, the brake-spring mounted thereupon—the sprocket rim mounted upon the brake-spring and means for automatically clutching the parts for propulsion and releasing them for coasting, all as and for the purposes described.

7. In a coasting and brake mechanism for bicycles the combinatien of the extension hub, the brake-spring, the sprocket rim and the automatic clutches for propulsion and for coasting together with means for applying the brake to said extension hub by a backward rotation of the sprocket rim, all as set forth.

8. In a coasting and brake mechanism for bicycles the combination of the extension hub, the brake-spring and the sprocket rim, automatic clutch devices for attaching and releasing said parts and a stationary detent for engaging the brake-spring when the sprocket rim is

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rotated backwardly all as and for the purpose described.

9. In a coasting and brake mechanism for bicycles the combination of the extension hub, the brake-spring loosely and concentrically mounted thereupon, the sprocket rim mounted eccentrically upon the brake-spring, and a fixed detent for preventing backward rotation of the brake-spring.

10. In a coasting and brake mechanism for bicycles the combination of the extension hub, the brake-spring provided with the lip to engage a recess in the sprocket rim and the thickened and thinned sections of the spring forming an excentric seat or bearing for the sprocket rim mounted thereon, whereby, when traction is made upon the rim it is caused to grip the brake-spring for the propulsion of the driving-wheel, all as set forth and described.

73

11. In a coasting and brake mechanism for bicycles the extension hub—the brake-spring and the sprocket rim, the brake-spring having an extension taking into a recess in the rim and an extension to take upon a detent and fixed portion of the bicycle whereby a backward pull upon the pedals and sprocket rim draws the brake-spring frictionally tight around the hub extension—all as and for the purposes described.

12. In a coasting and brake mechanism for bicycles the extension hub—the brake-spring thickened at its central section and thinned toward its overlapping ends and provided with the lip and side extensions for engaging both the sprocket rim and a fixed part of the bicycle whereby traction can be applied to the ends of the spring for drawing it into frictional engagement with the hub extension as set forth.

13. In a coasting and brake mechanism the hub extension and the sprocket rim, the brake-spring interposed between them and provided with an extension taking into a recess in the rim, and a side extension as d^{11} in combination with the cone bearing fixed into and prevented from rotation by the fork of the frame, said cone

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bearing carrying the disk E and detent *e*, and the saucer-shaped dust-guard *s* all as and for the purposes described.

WILLARD MILTON FARROW, *Inventor.*

Witnesses:
E. P. BUNYEA.
EDWIN S. CLARKSON.

74 2–071.

Room No. 240.

All communications should be addressed to "The Commissioner of Patents, Washington, D. C."

All communications respecting this application should give the serial number, date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *Oct. 20th*, 1896.
Mailed " " "

Willard M. Farrow, care J. M. Pollard, city:

Please find below a communication from the examiner in charge of your application, # 600,359, filed July 24th, 1896, coasting and brake mechanism for bicycles.

JOHN S. SEYMOUR,
[C. H. DUELL,]*
Commissioner of Patents.

The draftsman objected to the drawings for the reason that the lines are pale and rough in parts. The examiner objects to the drawings for the reasons that the devices illustrated on sheet 3, and in figure 5*, sheet 2, are not clearly shown. The construction set out in figure 5* cannot be understood. The drawing should more clearly illustrate this device, and a complete and full description furnished. An aperture should be shown in disk K, figure 7, sheet 1, to permit the axle to pass therethrough, and to conform to figure 3. It should preferably be stated that figure 1* is a vertical section rather than "a rear section vertically."

In line 13, page 3, *a'* is referred to as a recess. In figures 1 to 6 *a'* is used to designate holes. This should be corrected. *Flange* should be used in lieu of "ring" next to the last line, page 3. The operation of the latch or detent *a*, shown in figure 1*, is not clear. Line 19, page 3, should preferably read, "the rotating hub acts as a

[Matter enclosed between rules erased in copy.]
[* Words and figures enclosed in brackets erased in copy.]

strong brake." The sixth line from the bottom of page 5, it should be stated which extremity of the recess b^3 is meant. The letter E should be put upon figure 12 and q upon figure 16. d' should also be put upon figure 12. Figures 10 and 11 do not clearly illustrate the device. Lines 17, 18, and 19, page 6, are incorrect, and should be rewritten. It is not seen why stepping with the left foot advanced brings the pins g g to the front and between the upper and lower parts of the chain, page 7. As heretofore stated, the illustration of the device in figures 5^a and 6^a is unsatisfactory, and it is hereby required that the entire description of these figures occurring on page 8 and part of page 9 should be rewritten.

75 In claim 3 the spring should be included, and lines 3, 4 should be made to read, "the lever for actuating the connection between the sprocket rim, etc."

The words "as or in combination," claim 13, are indistinct. The cone and disk E and guard s should be directly included in this claim.

Claims 1, 2, 3 are rejected upon Stover *et al.*, 418,142, Dec. 24th, 1889, brakes.

Claims 5 and 6 are rejected upon Whitney, 527,571, Oct. 16, 1894, brakes, and Juhel's British patent, 8833, May 3, 1895, brakes.

Claim 7 is rejected upon Juhel, cited, and upon Michael, 16732, Sept. 3, 1894, brakes, English.

Claims 8 and 11 are rejected upon Whitney, cited.

Applicant is attempting to claim three distinct and independent inventions in one application: (1) That covered by claims 1, 2, 3, and 4; (2) that covered by claims 5, 6, 7, 8, 11, and 13; (3) that covered by claims 9, 10, and 12; and he is hereby required to limit himself to one of the above inventions.

E. W. SEWALL,
1st Ass't Examiner.

A. M. J.

In the United States Patent Office.

In the matter of the application of W. M. Farrow. Coasting and braking mechanism for bicycles. Filed July 24, 1896. Serial No., 600,359.

Hon. Commissioner of Patents.

SIR: I hereby amend the above-named application as follows:

First.

Cancel figures 9, 5a, *and* 6a *of the drawings and change figure* 7a *to* 5a.

Second.

Cancel sheet 3 *of the drawings.*

Third.

Cancel the entire specification, except the signature clause and signatures, and substitute therefor the following:

Sub. Spec.

"To all whom it may concern:

Be it known that I, Willard Milton Farrow, a citizen of the United States, residing at Morgantown, in the State of West Virginia, have invented certain new and useful improvements in coasting and brake mechanism for bicycles, and I do hereby declare the following to be a full, clear and exact description thereof, reference being had to the accompanying drawings, forming part of this specification.

76 My invention relates to bicycles and like vehicles, the object being to provide this class of vehicles with mechanism for disconnecting the rear wheel of the machine from its driving sprocket and quickly reconnecting the parts.

A further object of the invention is to provide a bicycle with automatic coasting and braking mechanism located on the rear axle of the machine, and adapted to be operated by backward rotation of the driving shaft.

The characteristic features of the invention will be fully disclosed hereinafter, and defined in the appended claims.

In the accompanying drawings:

Cancel per A.

Figure 1, illustrates a vertical section of one form of my improvement applied to the rear axle of a bicycle the brake being omitted.

Figure 2, is a section on the line x–x of figure 1.

Figure 3, is a vertical section of a modification of the structure shown in figure 1.

Figures 4, 5, 6 and 7 illustrate parts in detail.

Figure 8, shows a part of the machine frame with means applied thereto for operating the shifting devices.

Figure 1 [a]* is a vertical section of a [modified]* form of shifting mechanism with a brake applied thereto.

Figure 2 [a]* is a side elevation of the hub, sprocket wheel and brake removed from the axle.

Figure 3 [a]* is a side elevation illustrating a [further]* modification of the wheel-shifting mechanism and brake.

[Matter enclosed between rules erased in copy.]
[* Words and figures enclosed in brackets erased in copy.]

Figure 4 [a]* shows the modified form of brake and its operating lever detached; and

Figure 5 [a]* is a perspective view of the brake-spring shown in figures 1 [a]* and 2 [a]*.

In carrying out my invention I apply to the hub A of the driving wheel, figure 1 [a]* an extension *a* and upon this I loosely mount a sprocket rim B. A recess in the hub at *a'* is provided with a double or treble screw-thread in the form of short sections of a female screw, and an annular rim *b* integrally with the sprocket rim has a corresponding male screw-thread, the arrangement being such that a partial turn of the sprocket rim upon the hub extension brings the rim and hub together so that a further turn of the rim forwardly, as in the act of pedalling, carries the driving wheel with it for
77 propulsion, and so that when pedalling is stopped the wheel continues its rotation, at once unscrews from the sprocket rim which is held stationary by the chain and pedals, the parts being disconnected or connected by about a third of a turn of the sprocket rim upon the hub extension *a*.

An annual recess P in the rim, and similarly formed flange P' upon the hub A to enter said recess, constitute a dust and dirt guard to the interior.

A strong steel band or spring D constituting the brake is interposed between the rim B and the hub *a*, its inner surface being in loose contact with the hub. As shown in figures 1 [a]* 2 [a]* and 5 [a]*, its construction and uses are as follows: It is made to encircle the hub *a* about one and a fourth or more times, overlapping with a wedge or taper at its inner end, though having an outward spring or tension upon the inner bore of the rim so that it loosely, though closely, fits the hub *a* and rotates easily thereupon. It is secured to rotate with the rim by means of a lip *d*, taking into a recess, and its other or inner end is provided with an extension *d'* projecting at the side by means of which it is caused to engage a spring-pressed [rack]* latch or detent *e* working into a recess in the frame. A backward turn upon the pedals, carrying with it the sprocket rim B and end *d* of the spring, while the end *d'* is rigidly held by the latch *e* and frame, draws the spring band D tightly around the hub extension thus forming a strong brake. The brake may be applied with all the strength of the rider or to an extent only limited by the strength of the parts, and the ordinary brake may at the same time be employed in the usual manner. If the sprocket wheels are in direct line when the rim is screwed to the hub the slight sidewise movement out of line when coasting suffices to ensure engagement of the screw-threads at the first forward turn of the rim in resuming propulsion as the chain stron-ly tends to align itself under the tension of a strong pull, and the entire braking is thus wholly automatic. If riding at speed a backward impulse upon the pedals suffices to detach the sprocket rim and hub from the slight frictional

[* Words and figures enclosed in brackets erased in copy.]

hold of the clutching devices, and the pedals being held stationary the parts are at once disengaged, the wheel coasting freely by its acquired momentum, or down an incline. From this position a partial backward turn upon the pedals applies the brake, or a partial forward rotation resumes propulsion.

In figures 3 [a]* and 4 [a]* friction rollers c, c, c, c, in recesses in the hub extension are employed to effect the driving of the wheel by clutching the inner surface of the brake-spring when the rim is turned forwardly, and by dropping back into their recesses when in reverse movement, but the brake-applying mechanism is radically different in principle. The spring has two upwardly wedge-shaped bosses or lips d^2, d^2, one near either end and separated but a short distance from each other, and these are divided lengthwise
78 for the insertion of a lever F having two transverse pins f, f, designed to press over the bosses d^2, d^2, and to pull these, and with them the two ends of the spring together when applying as a brake. The lever when in normal position, as in dotted lines, figure 3*, has two depressions, f', f', in line with the pins g, g, in the rim, so that these drop freely out of the way of the sprocket chain. When it is desired to coast the pedals are stopped in such position as to bring the pins g, g, to the front and between the upper and lower parts of the chain, this position of the pedals having predetermined the position of the other parts.

The slight effort at freeing the clutches from their propulsive bite is sufficient to carry the spring and lever forward a short distance, or to the full-line position of figure 3*, the tension of the spring as in all the cases being however so adjusted as to oppose no frictional resistance to coasting. A steady backward turn upon the pedals applies the brake by bringing the first of the pins g beneath the chain and thrusting it down upon the lever F, the head of the second pin forming a fulcrum for the lever until a farther turn backward brings the chain over and at once depresses both the pins and with them the lever, the pins f, f, passing over the wedge-formed bosses and drawing the ends of the spring strongly together, and so applying the brake, while a forward turn upon the pedals restores the parts so that the friction clutches at once take their bite for the forward movement of the driving wheel.

Cancel per A.

Figures 1 to 8, inclusive, illustrate my invention when the brake is omitted, the device being applicable to any wheel when the hub can be screw-threaded or in any manner arranged for the attachment of the hub extension as is shown in

figure 1. The rim B and the friction clutches are mounted upon

[* Words and figures enclosed in brackets erased in copy.]
[Matter enclosed between rules erased in copy.]

the hub extension, and the wheel is propelled and coasting accomplished in a manner already sufficiently illustrated and described.

This device is however readily converted at will to an ordinary solid sprocket by means of a clutch I, mounted loosely upon the shaft and having a series of pins *i*, *i*, which pass through holes in the rim and into coincident holes in the hub A. This clutch is pressed toward the hub by means of a spirial spring L encircling the axle, and it is actuated by a centrally pivoted lever J taking into a groove formed in its face, the lever in turn being actuated by a wedge *m'* upon its upper end and a like wedge upon the vertically sliding block *m* to hold the clutch in opposition to the tension of the spring.

79 When the block *m* is dropped the spring forces the clutch to engagement with the hub, and if the holes for the pins *i*, *i* happen to be in line the connection would be made at once, but for the provision of a latch *n*, which clutches and retains the clutch until the rotation of the sprocket rim brings the knock-off detent O into action to depress the latch into its recess, and so permit the spring to force the clutch into engagement.

The necessity for this last arrangement arises from the fact that if the parts were suddenly connected while rapidly coasting, the result would be so violent a jerk upon the sprocket and chain as to endanger the mechanism, and almost inevitably throw the feet from the pedals or severely injure the rider, but the latch and knock-off fully guard against this contingency by retaining the clutch from engagement until the rider has resumed the forward pedalling and so [as the]* has the parts already in motion and under control, but is moreover on his guard against the shock that must follow the connecting of the parts.

I claim as my invention:

Cancel per A.

1.

The combination with a cycle of coasting mechanism and brake mechanism, both located on the rear-wheel axle of the machine, and adapted to be operated by back-pedalling.

2.

The combination with a cycle, of coasting mechanism comprising clutch mechanism located on the rear-wheel axle, and a brake-spring interposed between the rear-wheel hub and its driving sprocket.

[* Words and figures enclosed in brackets erased in copy.]
[Matter enclosed between rules erased in copy.]

3.

The combination with the rear wheel of a cycle provided with a hub extension, of a driving sprocket mounted on said hub extension, a brake-spring interposed between the hub extension and sprocket, means for contracting said spring to brake the machine, and clutch devices for connecting and disconnecting the hub and sprocket.

4.

In a coasting mechanism for bicycles, the extension hub, the sprocket rim, the automatic clutches, and the spring-pressed clutch and lever with its releasing mechanism, in combination with the latch for retaining the clutch from engagement and the knock-off for depressing the latch, all as and for the purposes described.

5.

In a coasting and brake device for bicycles the combination of the extension hub, the expansible brake-spring loosely encircling the same, and the sprocket rim loosely mounted upon the brake-spring, all as and for the purpose set forth.

1 [6].*

In a coasting and brake mechanism for bicycles the combination of the extension hub, the expansible brake-spring mounted thereupon, the sprocket rim mounted upon the brake-spring and means for automatically clutching the parts for propulsion and releasing them for coasting, all as and for the purposes described.

2 [7].*

In a coasting and brake mechanism for bicycles the combination of the extension hub, the brake-spring, having overlapping ends, the sprocket rim and the automatic clutches for propulsion and for coasting together, with means for applying the brake to said extension hub by a backward rotation of the sprocket rim, all as set forth.

[Matter enclosed between rules erased in copy.]
[* Words and figures enclosed in brackets erased in copy.]

3 [8].*

In a coasting and brake mechanism for bicycles the combination of the extension hub, the expansible brake-spring having overlapping ends and the sprocket rim, automatic clutch devices for attaching and releasing said parts and a stationary detent for engaging the brake-spring when the sprocket rim is rotated backwardly, all as and for the purposes described.

4 [9].*

In a combined coasting and braking device for cycles, the combination with a clutch device for permitting coasting without revolving the pedals, of a brake comprising a spring located within the coasting devices and having its ends overlapped and provided with projections, and a catch or detent for engaging one end of the spring while the other end thereof is engaged by the driving sprocket.

Cancel per A.

81 10.

In a cycle, the combination with the rear axle and sprocket mounted thereon and provided with radially disposed openings, of a clutch device, comprising a sliding disk having pins to enter said openings, and means for sliding said disk on the axle."

Remarks.

It is believed that the case is now free from the charge of multiplicity of inventions.

While a plurality of forms of clutch mechanism is shown and described, all of said forms are within the generic claims now presented.

Further and favorable action is respectfully requested.

Very respectfully, JAS. L. SKIDMORE,
Att'y for Farrow.

Washington, D. C., July 9th, 1897.

2–071.

Room No. 240.

All communications should be addressed to "The Commissioner of Patents, Washington, D. C."

All communications respecting this application should give the serial number, date of filing, and title of invention.

[* Words and figures enclosed in brackets erased in copy.]
[Matter enclosed between rules erased in copy.]

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *Sept.* 15, 1897.
Mailed " " "

W. M. Farrow, c/o James L. Skidmore, Washington, D. C.:

Please find below a communication from the examiner in charge of your application, 600,359, July 24, 1896, coasting and brake mechanism for bicycles.

BENJ. BUTTERWORTH,
[C. H. DUELL,]*
Commissioner of Patents.

The objection to the drawing is repeated.

The letter *a*' should be placed upon the drawing.

Claim 3 is indefinite. It is not understood what means applicant refers to for contracting the spring to brake the ma-
82 chine. Furthermore, there is no construction set out in this nor in the 1st, 2nd, and —.

Claim 1 is rejected upon—

Stover & Hance, 418,142, Dec. 24, 1889, brakes, back-pedal, there being held to be no invention in placing the brake on the rear axle.

Claim 2 is rejected upon—

Whitney, 527,571, Oct. 16, 1894, brakes, back-pedaling, taken with Stover & Hance, cited. So far as this claim is concerned, applicant has merely added the clutch of Stover & Hance to the Whitney brake.

Claim 3 is rejected upon—

British to Juhel, 8833 of 1895, brakes, back-pedaling.
" Michael, 16732 of 1894, " " "

Claim 5 is rejected upon Juhel and Whitney, cited.

As pointed out above, there is no construction set out in these claims rejected, and that if corrected they would be substantially the same as some of the claims already in the case which stand allowed.

Applicant is attempting to claim two distinct and separate inventions in one application, first, that covered by claims 1, 2, 3, 5, 6, 7, 8, 9 and illustrated on sheet 2 of the drawings; and, second, that covered by claims 4 and 10 and illustrated on sheet 1 of the drawings. This he cannot be permitted to do, and he is hereby required in the next action on his part to elect which of the inventions he desires to have remain in this case. In one he is claiming a bicycle back-pedaling brake and in the other a clutch pure and simple, clearly distinct inventions, and, moreover, they are not used in conjunction with each other.

FRANK C. SKINNER, *Examiner.*

JOHNSON.

[* Words and figures enclosed in brackets erased in copy.]

Am'd't A.

In the matter of the application of W. M. Farrow. Coasting and brake mechanism for bicycles. Filed July 24, 1896. Serial No., 600,359.

Hon. Commissioner of Patents.

SIR: I hereby amend the above-named application as follows:

First.

On *page 2* commence with *line 10 and erase through line 18, same page.*

Second.

Cancel the letter "*a*" after *figure 1, figure 2, figure 3, figure 4, and figure 5,* on *lines 19, 21, 23, 25, and 27, page 2.*

Third.

Commence with line 27, page 5, and erase through line 3, page 7.

83 *Fourth.*

Cancel claims 1, 2, 3, 4, 5, and 10.

Fifth.

Cancel sheet 1 of the drawings and the small letter "a" after figure 1, figure 2, figure 3, figure 4, and figure 5, on sheet 2 of the drawings.

Remarks.

In view of the foregoing amendments, it is believed that the case is in condition for allowance.

Further and favorable consideration of the case is respectfully requested.

Very respectfully, JAS. L. SKIDMORE,
Att'y for Farrow.

Washington, D. C., September 27th, 1897.

2–071.

Room No. 240.

All communications should be addressed to "The Commissioner of Patents, Washington, D. C."

All communications respecting this application should give the serial number, date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *Dec.* 2, 1897.
Mailed " " "

W. M. Farrow, care James L. Skidmore, Washington, D. C.:

Please find below a communication from the examiner in charge

of your application, # 600,359, July 24, 1896, coasting and brake mechanism for bicycles.

BENJ. BUTTERWORTH,
[C. H. DUELL,]*
Commissioner of Patents.

When the objection to the drawing has been overcome it is thought that the case will be allowed.

FRANK C. SKINNER, *Examiner.*

JOHNSON.

85 In the United States Patent Office.

In the matter of the application of W. M. Farrow. Coasting and brake mechanism for bicycles. Filed July 24, 1896. Serial No., 600,359.

Hon. Commissioner of Patents.

SIR: I hereby amend the above named application by cancelling the drawings now of record and substituting therefor the accompanying sheet.

The case having now been relieved of all objections, an early allowance is respectfully asked.

Very respectfully, JAS. L. SKIDMORE,
Att'y for W. M. Farrow.

Washington, D. C., Dec. 18, 1897.

2-024.

Issue division. Serial No., 600,359.

All communications should be addressed to "The Commissioner of Patents, Washington, D. C."

DEPARTMENT OF THE INTERIOR,
U. S. PATENT OFFICE,
WASHINGTON, D. C., *January* 7, 1898.

Willard M. Farrow, c/o Jas. L. Skidmore, city.

SIR: Your application for a patent for an improvement in coasting and brake mechanism, filed July 24, 1896, has been examined and allowed.

Very respectfully, BENJ. BUTTERWORTH,
Commissioner of Patents.

(Here follows drawing marked page 84.)

[* Words and figures enclosed in brackets erased in copy.]

600359

The Eclipse Bicycle Co.
v.
Willard M. Lawson
} page 1 of

Fig 1.

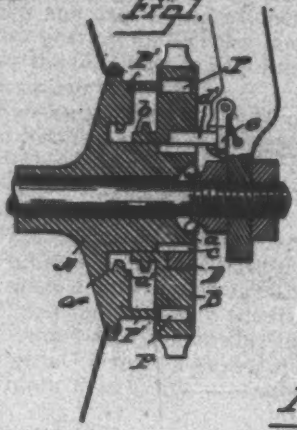


Fig 3.

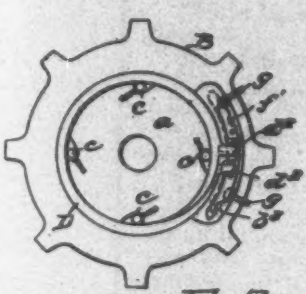


Fig 4.



Fig 2.

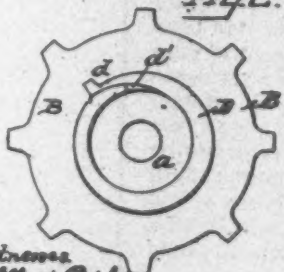
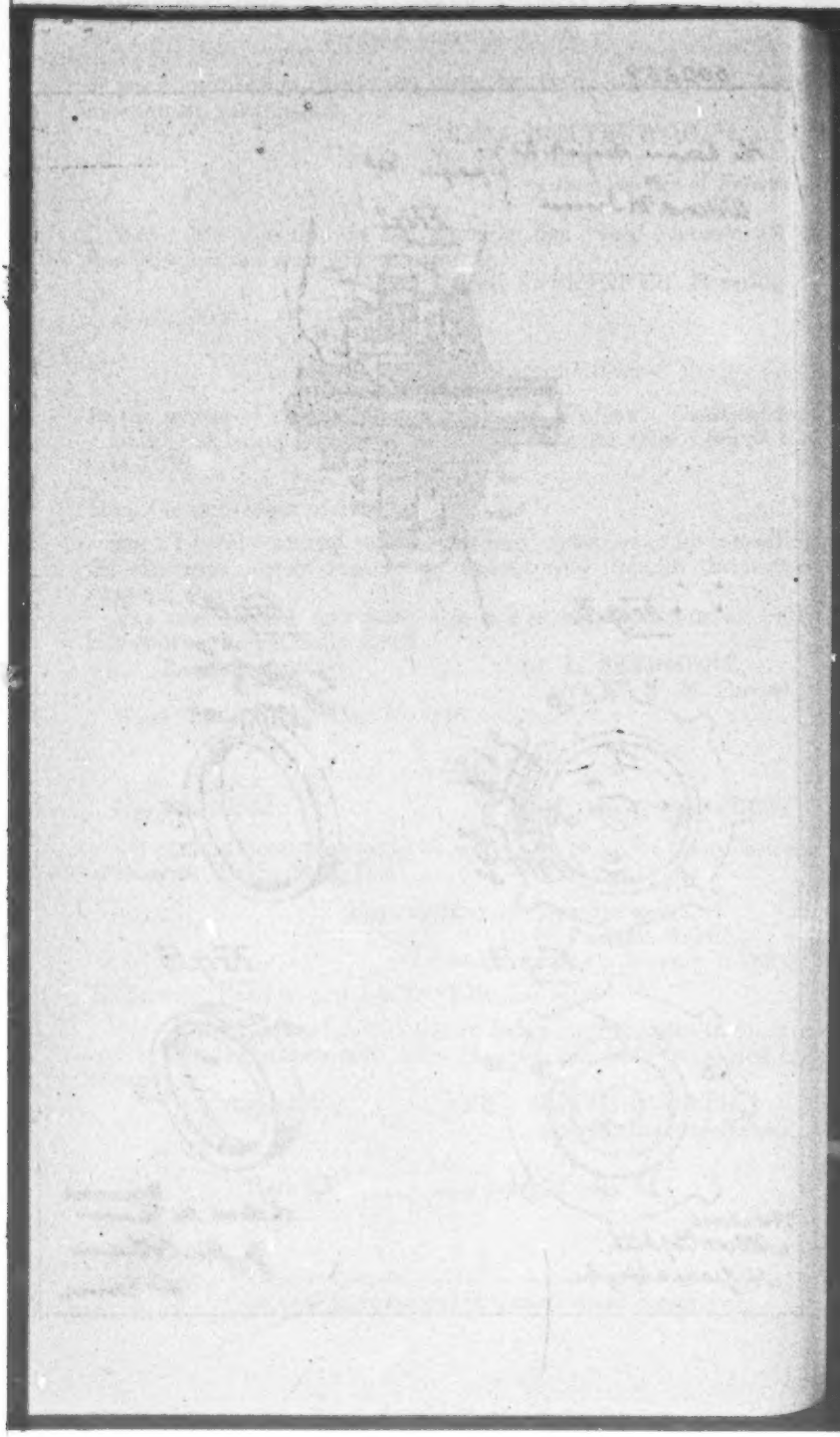


Fig 5



Witnesses
Albert Copeland.
H. Joseph Doyle.

Inventor
Willard M. Lawson
by Jno. L. Wilson
his Attorney.



86 *To all whom it may concern:*

Be it known that I W. Milton Farrow, a citizen of the United States, residing at Washington in the District of Columbia have invented a new and useful improvement in coaster and brake gearing for bicycles, and I do hereby declare the following to be a full, clear, and exact description of the same.

Sub.

Sub. spec. Reference is had to the accompanying drawings forming a part of this specification and in said drawings

Figure 1 is a side elevation, partly in section.

Figure 2 a section on the line *x–x* of figure 1.

Figure 3 a plan of a part of figure 1.

Figure 4 a section on the line *y–y* of figure 5.

Figure 5 a section on the line *z–z* of figure 4.

Figure 6 a section on the line *o–o* of figure 7.

Figure 7 a section at *p–p* of figure 6.

Figure 8 is a side elevation of a modification.

Figure 9 a section at *x–x* of figure 8.

Figure 10 is a plan of the device shown in figure 8.

Fig. 11 an enlarged detail of figure 8.

Fig. 12 a top or plan view of a part of the lever K.

Like letters of reference indicate like parts in all the views.

My present invention is an improvement upon that shown in my pending application for an improved coasting and brake for bicycles filed on July the 24th 1896, number 600,359 and it has for its object the combination with my automatic coaster of a more powerful and effective brake than that shown in said prior application the invention being to construct a brake that will be sudden and automatic in operation, and to which the rider may apply his utmost strength in emergencies requiring instant stopping of the wheel, the brake action taking effect upon the periphery of the wheel instead of a disk or flange extension of the hub as in my prior application above mentioned but being applied in the same

[Matter enclosed between rules erased in copy.]

87 manner, viz. by a backward rotation of the pedal shaft and propelling gear all as will be specifically described.

My present invention is limited to the brake and its actuating mechanism and I have not illustrated a coasting device though such is essential to the operation of the brake. Any coasting mechanism that will permit free forward rotation of the driving wheel while the pedals and sprockets are stationary will suffice for my purpose, and my invention consists in the application of an automatic brake to any coasting device.

It is not essential that the brake should be of the exact character shown, or that it should be located as described; the combination of a coasting device with a brake that is applied to the periphery of the wheel by a mere reversal of the pedal shaft and propelling gear is the essence of my invention. Such a brake as I illustrate and describe is impossible of operation except in combination with a coasting gear.

In carrying out my invention I suspend or pivot a brake-shoe A so that it can be readily brought into contact with the periphery of the driving wheel. It is held from contact by gravity, aided by a light spring *a* which also serves to press the lower end of the brake-shoe first against the tire when the brake is to be applied. A rod *b* figures 1, 2, 3, serves to pivot the shoe to a lever M which is suspended upon the cross-brace of the frame C, and has a free swinging motion thereon, and the rod *b* is bent at a right angle and connected to the lever B by means of which it is made to transmit the brake power to the shoe. Figures 1, 2, 3.

The lever B is strongly pivoted at its lower end to a base *b'* adjustably clamped to the horizontal brace of the frame and its upper end terminates as a mortise b^3 which serves for a guide for the chain D, which however when drawn taut as in the act of propulsion passes through said mortise without contact or friction. Upon a reversal of the pedals the

[Matter enclosed between rules erased in copy.]

88 chain slacks or drops to the bottom of the mortise and is engaged by a pawl *c* which firmly locks the lever and chain together against backward movement through the mortise, and a further backward turn of the pedals actuates the lever and rod *b* and so applies the brake.

As shown in figures 1 and 2 the pawl *c* is pivoted near the top of the mortise and when the chain is taut in propulsion it is raised to the dotted-line position resting horizontally upon the chain and because of its contact being prevented from any motion or disagreeable click or noise. It is moreover partly counterbalanced only sufficient excess of weight being left at the toe to cause it to follow the sag of the chain and so to insert the pointed end or toe between the side bars of the link and by means of its shoulders to hold the link down upon the cross-pin *c'*, as shown in figure 1.

A full backward upon the chain next oscillates the lever, and by means of the rod *b* actuates the brake.

In figures 4 and 5 I illustrate a slightly modified arrangement of parts whereby the chain is enabled to act in propulsion or when taut without contact with any part of the lever. The pawl is pivoted at the bottom of the mortise and entirely below the straight line of the chain as shown in full lines of the latter but when by reversal of th sprocket the chain is caused to sag it catches e upturned point of the pawl which then turns on its pivot wedging the chain against the end of the mortise. Forward propulsion being resumed the pawl takes the dotted-line position and the chain runs freely through the mortise without contact.

A like result is secured by the means shown in figures 6 and 7 where a strong curved lug or hook *e* rises from the floor of the mortise terminating just short of contact with the taut chain, and readily enters and secures the link when the chain is slack.

In figures 8 to 12 inclusive I illustrate

[Matter enclosed between rules erased in copy.]

89 mechanism designed to take the power direct from the large sprocket wheel G and transmit it to the brake shoe without reference to the chain. A rock-shaft H is journalled in bearings *i i* in a hanger I which is both adjustably and detachably secured to the frame C in front of the driving wheel and an arm H is rigidly attached to the rock-shaft projecting downward and backward therefrom and the brake-shoe A is pivoted to this arm by means of the lugs *a' a'* and retained in any desired adjustment or plane by means of the spring *a*.

To the end of the rock-shaft and in the plane of the sprocket wheel is secured a strong lever K, so adjusted as to project its end into an arc of the circle of movement of the sprocket teeth without quite reaching the rim of the sprocket wheel. This lever is made to impart a limited rocking movement to the rock-shaft and the movement is defined as follows. When the sprocket wheel is turned forwardly the lever K is turned up out of the path of the sprocket teeth by contact with the latter and is then turned slightly more by means of one or more spring-guides *k* which are attached to the end of the lever and project beyond it so as to press gently upon the sides of the rim of the sprocket wheel. These guide-springs are flared or diverge outwardly so that as the lever K is turned upward the springs touch the rim more and more lightly till at last the contact becomes too faint to cause further movement in that direction. This position of the lever is shown in dotted lines in figure 8.

When the movement is reversed the backward *term* of the sprocket wheel induces a constantly increasing grip of the springs *k k* by means of which the end of the lever is brought beneath one of the teeth of the sprocket wheel and is turned downward with it thus rocking the shaft and pressing the brake-shoe against the tire of the driving wheel. The lever K is at this time in a nearly horizontal plane and tangent to the sprocket wheel so that the weight applied to the pedals plus the

[Matter enclosed between rules erased in copy.]

leverage of the pedal cranks is transmitted entire to the brake-shoe and exerted in the brake action. This with a heavy rider might perhaps endanger the tire, or cause a dangerously sudden stop were it not subject to an adjustable limit as follows:

A second lever L is attached to the rock-shaft in the same vertical plane with lever K. This lever is of greater length than the former and is so arranged with reference thereto that as the limit of the desired or requisite brake action is attained the end of the lever 1 passes beneath a tooth of the sprocket wheel above that engaging lever K and braces and locks the sprocket wheel against further turning by absorbing the surplus weight of the rider. The effect of this is to retain upon the brake only the exact degree of pressure predetermined as most desirable and at the same time to afford a safe fulcrum for dismounting from the pedals or continuing upon them all the weight of the rider.

In practice the relative angle of these two levers may be made adjustable with reference to each other or to the arc of movement of the teeth of the sprocket wheel with which they are to engage but the degree of brake force may be varied or adjusted by means of the adjustable hanger and rock-shaft and this meets all practical requirements.

As stated hereinbefore I do not limit my invention to the mechanism shown and described but claim.

1. In a coasting device for bicycles the combination of a brake-shoe for the periphery of the driving wheel with mechanism for automatically forcing said shoe against said wheel by a backward rotation of the pedal shaft and propelling gear as set forth.

2. In a coasting and brake mechanism for bicycles the pivoted lever adapted for engagement with the teeth of the sprocket wheel and to be turned thereby to actuate the rock-shaft and apply the brake in combination with a second lever which is also secured to the rock-shaft and is adapted to engagement with the

[Matter enclosed between rules erased in copy.]

91 sprocket wheel and to lock it against further movement as and for the purpose set forth.

3. In a coasting and brake device for bicycles a brake-shoe for the tire of the wheel and an operating lever therefor, said lever permitting the unobstructed passage of the chain when the wheel is propelled forwardly, but grasping the chain and applying the brake when the chain is made to run backwardly all as shown and described.

4. In a coasting and brake device for bicycles a brake-shoe for the tire of the wheel a lever connected to said brake-shoe and having a guide-mortise for the passage of the chain and arranged so that the latter when running forward and drawn taut is wholly unobstructed but when reversed and run backward is slackened and engaged by a pawl or hook within said guide-mortise and so made to apply the brake, all as set forth.

5. In a coasting and brake mechanism for bicycles the brake-shoe adapted to the drawing wheel, the lever having the rod connection with the brake-shoe and having a mortise for the passage of the sprocket chain and a pawl or upward projection upon the floor of said mortise the position of the parts being such that when the chain is taut as in propulsion it runs in the mortise without contact but when reversed it slacks or sags so that it is secured by said pawl or projection and thus connected for operating the brake.

6. In a coasting and brake device for bicycles the lever provided with the mortise through which the driving chain runs without contact when taut and provided with the pawl having the upwardly pointed toe to enter a link of the chain when by reverse rotation of the sprocket wheel the chain first becomes slack and drops over said toe and then raises said pawl to grip the chain against the end of the mortise all as and for the purpose described.

WILLARD MILTON FARROW.

Witnesses:
CHARLES M. IRELAN.
T. R. SHEPPARD.

[Matter enclosed between rules erased in copy.]

92 2-071.

Room No. 240.

All communications should be addressed to "The Commissioner of Patents, Washington, D. C."

All communications respecting this application should give the serial number, date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *Jan. 22nd*, 1897.
Mailed Jan. 22, 1897.

Willard M. Farrow, care James M. Pollard, city:

Please find below a communication from the examiner in charge of your application, # 614,140, Dec. 1st, 1896, coaster and brake gear for bicycles.

JOHN S. SEYMOUR,
[C. H. DUELL,]*
Commissioner of Patents.

The draftsman objects to the drawing for the reason that the lines are rough in parts, and it has been accordingly admitted for examination only.

In figure 1 the connecting rod *b*, which is broken away, should, for the sake of clearness, be shown as one continuous member, extending in the shortest distance from the pivot on the lever fulcrumed on the rear fork of the bicycle to the pivot on the brake, and should in that position be shown as broken. As a coasting device is an essential feature of applicant's improvement, the same should be shown on a new sheet of drawing.

The spring-guides *k* should be shown in figure 8, and also the two levers used in this construction should be shown adjustable, as referred to in the 4th line from the bottom of page 6.

All the claims are incomplete, as not covering an operative construction, and are rejected for that reason. A clutch mechanism should be included in each claim to allow the chain to come out of operative engagement with the rear sprocket. In claim 2 the sprocket and rock-shaft should be directly included.

Claim 4 is inaccurate in stating that the lever connected to said brake-shoe has a guide-mortise for the passage of the chain. The lever connected to the brake-shoe has no mortise. The construction should be more clearly set forth in this claim, and also the pawl or hook should be directly included.

Claim 5 is indistinct in the words "adapted to" in referring to the brake-shoe. It should preferably be stated "adapted to contact." The pawl should be directly included in this claim.

[* Words and figures enclosed in brackets erased in copy.]

Claim 6 is incomplete in that it does not include a brake.

93 Claim 1 is rejected upon U. S. patent to Stover *et al.*, 418,142, Dec. 24th, 1889, brakes.

Claim 3 is rejected upon U. S. patent to Bailey, 517,996, April 10, 1894, brakes. To overcome this reference it should be distinctly brought out in the claim that the lever positively engages the chain.

Applicant is attempting to claim two distinct and independent inventions in one application: First, that shown in figures 1 to 7, inclusive, and covered by claims 3, 4, 5, and 6, and, second, that shown in figures 8 to 11, covered by claim 2. For this reason a division is hereby required.

FRANK C. SKINNER, *Examiner.*

Sub. Spec.

In the United States Patent Office.

In the matter of the application of William M. Farrow. Coaster and brake gear for bicycles. Filed December 1, 1896. Serial No. 614,140.

Hon. Commissioner of Patents.

SIR: I hereby amend the above-named application as follows:

First.

Cancel the drawings now on *file, and substitute therefor the accompanying three sheets.*

Second.

Cancel the specification, except the *preamble, signature clause, and signatures*, and *substitute therefor the following:*

My invention relates to combined coasting and brake mechanism for bicycles and like vehicles.

The main object of my invention is to construct a simple, durable and economical automatic coasting device combined with a powerful brake that will also be automatic in operation, and to which brake the rider may apply his utmost strength in emergencies requiring sudden stopping of the wheel, the brake action being applied to the periphery of the driving wheel instead of to a disk or flange extension on or connected with the hub of the driving wheel; the crank shaft or driving sprocket, and the brake is applied by a backward rotation of the pedals and propelling gear or mechanism, as will be more fully and specifically described hereinafter.

A further object of my invention is to combine with my improved brake devices any type or construction of coasting device that will permit the wheel to coast freely while the pedals and propelling mechanism are held stationary.

The above-named and such other objects as may occur from the ensuing description are accomplished by the mechanism hereinafter described, reference being had to the accompanying drawings, in which—

Figure 1, represents a complete bicycle embodying my invention.

94 Figure 2, is a side elevation partly in section, illustrating my improved brake mechanism, together with a part or section of the upper portion of the driving chain.

Figure 3, is a vertical section on the line *x x* of figure 1.

Figure 4, is a plan view of a part of figure 1.

Figures 5 and 6 are vertical sectional views of a modified form of lever.

Figures 7 and 8, are like views of another modified form of lever.

Figure 9, is a section of the rear sprocket, showing friction clutches and ball bearings and illustrating one of my preferred coasting devices.

Figure 10, is a vertical cross-section of the same; and

Figure 11, a like section slightly modified, showing coasting devices.

In carrying out my invention, I suspend or pivot a brake-shoe A so that it can be readily brought into contact with the periphery of the driving wheel. The said shoe is held by gravity aided by a light spring *a* which serves to press the lower end of the brake-shoe first against the tire F when it is desired to apply the brake. A rod *b*, as clearly shown in Figs. 1, 2 and 3, serves to pivot the brake-shoe to a lever *m* which latter is suitably suspended to the cross-brace of the frame C, and has a free swinging motion, thereon, and the rod *b* is bent at substantially a right angle and connected to a lever B, through [through]* the medium of which the rod *b* is caused to transmit the brake power to the shoe, in Figs. 1, 2 and 3.

The lever B is strongly pivoted at its lower end to a base *b'* which latter is suitably secured to the horizontal part of the frame C and projects upwardly so that its mortised upper end *b*[2] forms a guide for the drive-chain D which chain when pulled taut as in the work of propulsion passes through said mortised portion of the lever B without contact. Upon reversal of the pedals, or what is commonly termed "back-pedalling," the upper portion of the drive-chain is slackened and is caused to engage a pawl *e*, or the equivalent, which firmly locks the chain against backward movement through the mortise. A backward turn upon the pedals thus results in pressing the shoe against the driving wheel F, as shown in figures 1 and 2.

The pawl *e* may be pivoted above the chain, as illustrated in figure 2, so that the said pawl is made to rest in a horizontal plane when the chain is taut, as in dotted lines of figure 2, and it is partly counterbalanced to prevent clicking as the links are drawn along its surface, but when the drive chain is caused to drop or sag to the bottom of the mortise, the projecting end or point of the pawl enters between the sides of the link and holds it down upon the cross-pin *e'*, as shown in full lines in figure 1.

In figures 5 and 6 I illustrate a slightly modified arrangement whereby the chain when running forward does [as so†]* without touching any part of the lever, the pawl *e* being pivoted at the bottom of the mortise and its upward projecting toe taking into the link when the chain is slack and movement of the chain reversed, as shown in dotted lines. It then assumes the position shown in full lines.

Another slightly modified form is illustrated by figures 7 and 8 showing a rigid lug *e* integral with the lever and projected from the bottom of the mortised portion so as to merely clear the chain when taut and serves the same purpose as the pawl. When slack a link of the chain drops over the lug and the hook surface of the latter holds it securely until the movement is again reversed. When taut the chain is in the position shown by dotted lines.

As will be seen by reference to the drawings, Fig. 5 is a sectional view on the line *z z*, Fig. 6; Fig. 6 is a section on line *y y*, Fig. 5; Fig. 7 is a section on the line *p p*, Fig. 8; and Fig. 8 is a section at *o o*, Fig. 7.

The coasting mechanism shown in Figs. 9 and 10, comprises a suitable extension of the driving-wheel hub of sufficient width to permit the mounting thereon of the sprocket rim N, which latter fits closely and smoothly, yet so as to turn freely in a backward direction. It is recessed at several equidistant points, as shown, for reception of a series of cylindrical friction clutches P, which bite at once upon the forward rotation of the rim with reference to the hub, and so imparts rotation to the driving wheel. When however the sprocket rim is held from rotation the driving wheel can continue in forward rotation, as the cylindrical friction clutches are at once loosened and the wheel can thus coast freely of its moment or down an incline, the sprocket wheels and pedals being meantime held from rotation.

Figure 11 shows a coasting mechanism, the hub end and extension on which the sprocket rim is mounted being shown slightly modified in construction, yet illustrating the rim N and cylindrical friction clutches P, substantially as shown in Figs. 9 and 10.

While a coasting device is an essential element in connection with my improved brake mechanism, it will be understood that I lay no particular stress upon the coasting mechanism illustrated in Figs. 9, 10 and 11, as any such device or mechanism that will permit the wheel to coast freely while the pedals and propelling mechanism are held stationary will suffice for the practical operation of the brake.

It will be also perceived that it is not essential that the brake mechanism should be of the precise construction shown, or it should be located, as illustrated and described, the combination with a coasting device, of a brake automatically applied to the periphery

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[* Words and figures enclosed in brackets erased in copy.]
[† In pencil in copy.]

of the driving wheel by a mere reverse movement of the pedals and propelling mechanism constituting the essence of the invention.

In operation with the coasting mechanism hereinbefore described it will readily be seen that a forward rotation of the pedals results in rotation of the driving wheel, and in forward propulsion—a cessation of rotation of the pedals results in coasting—and a backward rotation of the pedals applies to the brake.

96 Having thus described my invention, what I claim and desire to secure by letters patent is:

1.

In a combined coasting and braking device for cycles, the combination with gear-shifting mechanism, and a brake, of means connected to the brake for engaging the driving chain of the machine when its driving movement is reversed, and thus apply the brake

Canceled per A.

2.

In a combined coasting and braking device for cycles, the combination with shifting mechanism for releasing the gearing of the rear wheel, of a brake, and connections between the shifting mechanism and brake, whereby a backward movement of the pedals simultaneously releases said rear-wheel gearing, and applies the brake.

2 [3].*

In a combined coasting and breaking device for cycles, the combination with the shifting mechanism for throwing the rear-wheel sprocket out of gear, and with a brake adapted to engage the wheel, of a driving chain and a device for engaging the chain, said device permitting a free forward movement of the chain, but interrupting its reverse movement and thus operating the brake.

3 [4].*

In a combined coasting and braking device for cycles, the combination with shifting mechanism for throwing the rear wheel out of gear, and with a brake adapted to engage the periphery of the wheel, of a driving chain, a lever fulcrumed on the machine frame and provided with a device for engaging said chain, when the latter moves rearwardly, and a connection between said lever and the brake, whereby the latter is applied when the movement of the chain is interrupted.

[Matter enclosed between rules erased in copy.]
[* Words and figures enclosed in brackets erased in copy.]

4 [5].*

In a combined coasting and breaking device for cycles, the combination with shifting mechanism for throwing the driving wheel out of gear, and with a brake-shoe adapted to engage the periphery of the wheel, of a driving chain and a lever provided with a pawl, which latter engages and locks the chain and lever firmly together upon backward movement of the chain b[y]*u t releases the same when the chain is running forward.

97 5 [6].*

In a combined coasting and braking device for cycles, the combination with shifting mechanism for throwing the driving wheel out of gear, and a brake-shoe adapted to engage the periphery of the wheel, of a pivoted lever mortised at its upper end, and a pawl suitably secured within said mortised portion of the lever, a driving chain running forwardly and taut through said mortise during the forward movement of the pedals, but upon reverse movement slackens and drops into engagement with said pawl,

Per A. and [by]* means connected with the lever and brake-

Per A. shoe [applies]* for applying A the brake.

6 [7].*

In a combined coasting and braking device for cycles, the combination with shifting mechanism for throwing the driving wheel out of gear, and with a brake adapted to engage the tire of the wheel, of an operating lever automatically actuated by a reverse or backward movement of the sprocket chain, the lever being provided with means for locking the chain and lever together during back movement of the chain but releases same when the chain is running forward, and means connected with the lever and brake-shoe for applying the brake.

Very respectfully, JAS. L. SKIDMORE,
Att'y for Farrow.

Washington, D. C., July 3, '97.

In the United States Patent Office.

In the matter of the application of Willard M. Farrow. Coaster and brake gear for bicycles. Filed December 1, 1896. Serial No., 614,140.

Hon Commissioner of Patents.

SIR: In view of the examiner's letter dated January 22, 1897, I have amended the above-named application and substituted new drawings, and have cured the formal objections to the description

[* Words and figures enclosed in brackets erased in copy.]

by substituting a new specification and claims. I beg to say that the subject-matter illustrating by figures 8 to 11, inclusive, of the original drawings will form the subject-matter of a divisional application.

A careful reconsideration of the case, as now presented, is respectfully asked.

Very respectfully, JAMES L. SKIDMORE,
Att'y for Farrow.

Washington, D. C., July 3rd, 1897.

98 2–071.

Room No. 240.

All communications should be addressed to "The Commissioner of Patents, Washington, D. C."

All communications respecting this application should give the serial number, date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *Aug.* 12, 1897.
Mailed Aug. 12, 1897.

W. M. Farrow, c/o James L. Skidmore, city:

Please find below a communication from the examiner in charge of your application, 614,140, Dec. 1, 1896, coaster and brake gear for bicycles.

BENJ. BUTTERWORTH,
[C. H. DUELL,]*
Commissioner of Patents.

Throughout the claims it should be brought out that the means for engaging the chain positively engages the same.

The means connecting with the lever and brake-shoe which applies the brake should be directly included in claim 6.

Claims 1, 2, and 3 are substantially the same, and two of them will have to be canceled.

Claim 7 is substantially the same as claim 4, and one of them will have to be canceled. The device as illustrated must of necessity be automatic in applying the brake.

Applicant is hereby given until Sept. 7, 1897, to prepare this case for an interference.

FRANK C. SKINNER, *Examiner.*

JOHNSON.

[* Words and figures enclosed in brackets erased in copy.]

Am'd't A.

In the United States Patent Office.

In the matter of the application of W. M. Farrow. Bicycle brake and coaster. Filed Dec. 1, 1896. Serial No., 614,140.

Hon. Commissioner of Patents.

SIR: *I hereby amend the above-named application by erasing* CLAIM 2.

Change the numerals of the remaining claims accordingly.

In claim 6, line 9, erase "by\;" same claim, last line, erase " APPLIES *" and insert "for applying."*

99 *Remarks.*

Throughout the claims is brought out the "means for *engaging* the chain," hence it is not clear why applicant should refer to "means for *positively* engaging the chain."

Claim 2 has been erased, since it appears to cover in terms substantially the ground covered by claim 1. Claim 3 being more specific in terms, said claim is not considered to be the same in scope as claim 1.

Claim 6 has been amended to meet the official requirements.

It is respectfully contended that claim 7 is not a duplication of claim 4, since claim 7 includes "an operating lever automatically actuated by a reverse or backward movement of the sprocket chain."

The operating lever need not of *necessity* be operated automatically, as the said lever may be operated through the medium of a rod or other means within the reach or under the control of the rider.

Very respectfully, JAS. L. SKIDMORE,
Att'y for W. M. Farrow.

Washington, D. C., Sept. 4, 1897.

2–071.

Room No. 240.

All communications should be addressed to "The Commissioner of Patents, Washington, D. C."

All communications respecting this application should give the serial number, date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *Nov.* 3, 1897.
Mailed Nov. 3, 1897.

W. M. Farrow, c/o Jas. L. Skidmore, city:

Please find below a communication from the examiner in charge

of your application, 614,140, Dec. 1, 1896, coaster and brake gear for bicycles.

BENJ. BUTTERWORTH,
[C. H. DUELL,]*
Commissioner of Patents.

Throughout the claims the words "gear-shifting mechanism" is incorrectly used, as there is no "gear-shifting mechanism." What applicant apparently intends to include is a clutch, and it should be so stated in each of the claims.

Claims 1 and 2 are substantially the same and one of them will have to be canceled.

This case has this day been put into three interferences.

FRANK C. SKINNER, *Examiner.*

JOHNSON.

100 A.

2-061.

Interference.

U. S. Patent Office,
Nov. 9, 1897,
Ex'r of interferences.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *Nov.* 3, 1897.

Interference No. 19092.

W. M. Farrow, c/o James L. Skidmore, city:

Please find below a copy of a communication from the examiner concerning your application, 614,140, Dec. 1, 1896, coaster and brake gear for bicycles.

Very respectfully, BENJ. BUTTERWORTH,
Commissioner of Patents.

Room No. 240.

All communications should be addressed to "The Commissioner of Patents, Washington, D. C."

Your case, above referred to, is adjudged to interfere with others, hereafter specified, and the question of priority will be determined in conformity with the rules.

The statement demanded by rule 110 must be sealed up and filed on or before the 8th day of Dec., 1897, with the subject of the

[* Words and figures enclosed in brackets erased in copy.]

invention and name of party filing it indorsed on the envelope. The interference number should also be indorsed thereon. The subject-matter involved in the interference is:

In a combined coasting and braking device for cycles the combination with a clutch, and a brake, of means connected to the brake for engaging the driving belt of the machine when its driving movement is reversed, and thus apply the brake.

The issue includes directly claims 1 and 2 of Farrow's application, claim 2 of Little's application, and is generic to claims 19 and 26 of Phillips' application.

This interference is declared under rule 96.

The other parties are:

Joseph A. Little, Washington, D. C., vehicle-propelling mechanism; attorneys, Crosby & Gregory.

William Allen Phillips, United States Army, velocipede clutches & brakes; attorney, W. B. Richards, Galesburg, Ill.; associate, L. S. Bacon, Washington, D. C.

FRANK C. SKINNER, *Examiner.*

JOHNSON.

101 B.

2-061.

Interference.

U. S. Patent Office,
Nov. 9, 1897,
Ex'r of interferences.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *Nov.* 3, 1897.

Interference No. 19093.

W. M. Farrow, c/o James L. Skidmore, city:

Please find below a copy of a communication from the examiner concerning your application, 614,140, Dec. 1, 1896, coaster & brake gear for bicycles.

Very respectfully, BENJ. BUTTERWORTH,
Commissioner of Patents.

Room No. 240.

All communications should be addressed to "The Commissioner of Patents, Washington, D. C."

Your case, above referred to, is adjudged to interfere with others, hereafter specified, and the question of priority will be determined in conformity with the rules.

The statement demanded by rule 110 must be sealed up and filed on or before the 8th day of Dec., 1897, with the subject of the invention and name of party filing it indorsed on the envelope. The interference number should also be indorsed thereon. The subject-matter involved in the interference is:

The combination in a velocipede, with a driven or driving wheel, a drive-chain, and a clutch in said wheel, of a brake and means for positively locking said chain and brake upon back-pedaling, to throw on the brake.

The issue is claim 26 of Phillips' application, and includes also his claim 19, claims 3 and 6 of Farrow's, and claims 2, 3, and 4 of Clark's application.

This interference is declared under rule 96.

The other parties are:

William Allen Phillips, United States Army, velocipede clutches & brakes; attorney, W. B. Richards, Galesburg, Ill.; associate, L. S. Bacon, Washington, D. C.

Frederick Clark, Clear Lake, Minn., automatic brake; attorneys, C. A. Snow & Co., Washington, D. C.

FRANK C. SKINNER, *Examiner.*

JOHNSON.

102 C.

2–061*a*.

(Interference.)

{ U. S. Patent Office, Nov. 9, 1897, Ex'r of interferences. }

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *Nov.* 3, 1897.

Interference No. 19094.

W. M. Farrow, c/o James L. Skidmore, city:

Please find below a copy of a communication from the examiner concerning your application, 614,140, Dec. 1, 1896, coaster & brake gear for bicycles.

Very respectfully, BENJ. BUTTERWORTH,
[C. H. DUELL,]*
Commissioner of Patents.

[* Words and figures enclosed in brackets erased in copy.]

Room No. 240.

All communications should be addressed to "The Commissioner of Patents, Washington, D. C."

Your case, above referred to, is adjudged to interfere with others, hereafter specified, and the question of priority will be determined in conformity with the rules.

The statement demanded by rule 110 must be sealed up and filed on or before the 8th day of Dec., 1897, with the subject of the invention and name of party filing it indorsed on the envelope. A The interference number should also be indorsed thereon.

The subject-matter involved in the interference is—

The combination in a bicycle, of a drive-chain, gear connection between said chain and the drive-wheel which permits of backward movement of the chain while the drive-wheel continues to rotate, and a brake device pivotally mounted on the bicycle and provided with a spur which engages the normally taut slide or run of the drive-chain when said side or run slackens by arresting its forward movement, and a chain-keeper also mounted on said brake device to swing therewith, and in such position that the chain passes therethrough.

The issue is claim 21 of Phillips' application and is generic to claim 5 of Farrow's application.

This interference is declared under rule 96.

The other party is:

William Allen Phillips, United States Army, velocipede
106 clutches & brakes; attorney, W. B. Richards, Galesburg, Ill.; associate, L. S. Bacon, Washington, D. C.

FRANK C. SKINNER, *Examiner.*

JOHNSON.

2–071.

Room No. 240.

All communications should be addressed to "The Commissioner of Patents, Washington, D. C."

All communications respecting this application should give the serial number, date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *Sept.* 1, 1898.
Mailed Sep. 1, 1898.

W. M. Farrow, c/o James L. Skidmore, city:

Please find below a communication from the examiner in charge of your application, 614,140, Dec. 1, 1896, coaster and brake gear for bicycles.

C. H. DUELL,
Commissioner of Patents.



No. 416,140

Re Eclipse Bicycle Co
v.
Willard M. Farrow
} Page 103.

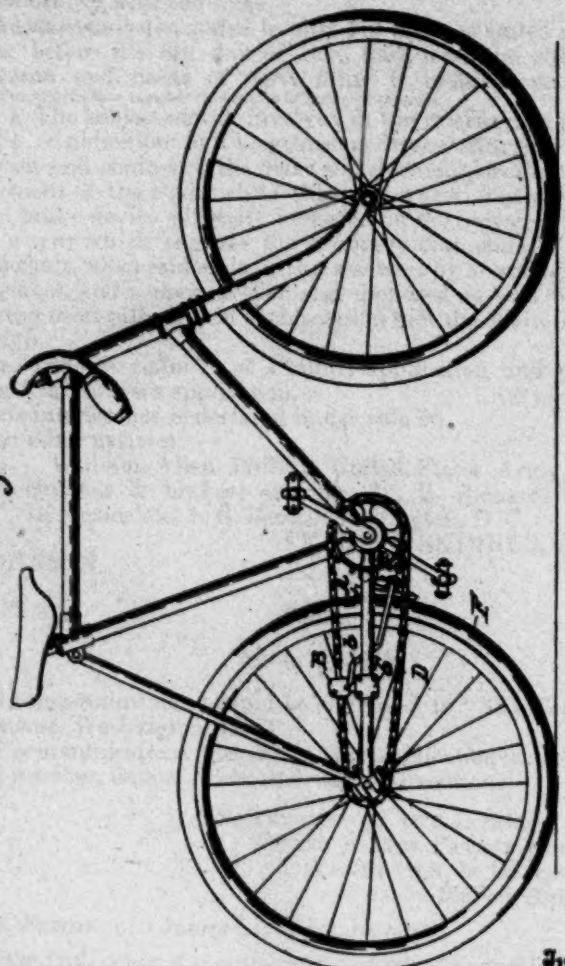
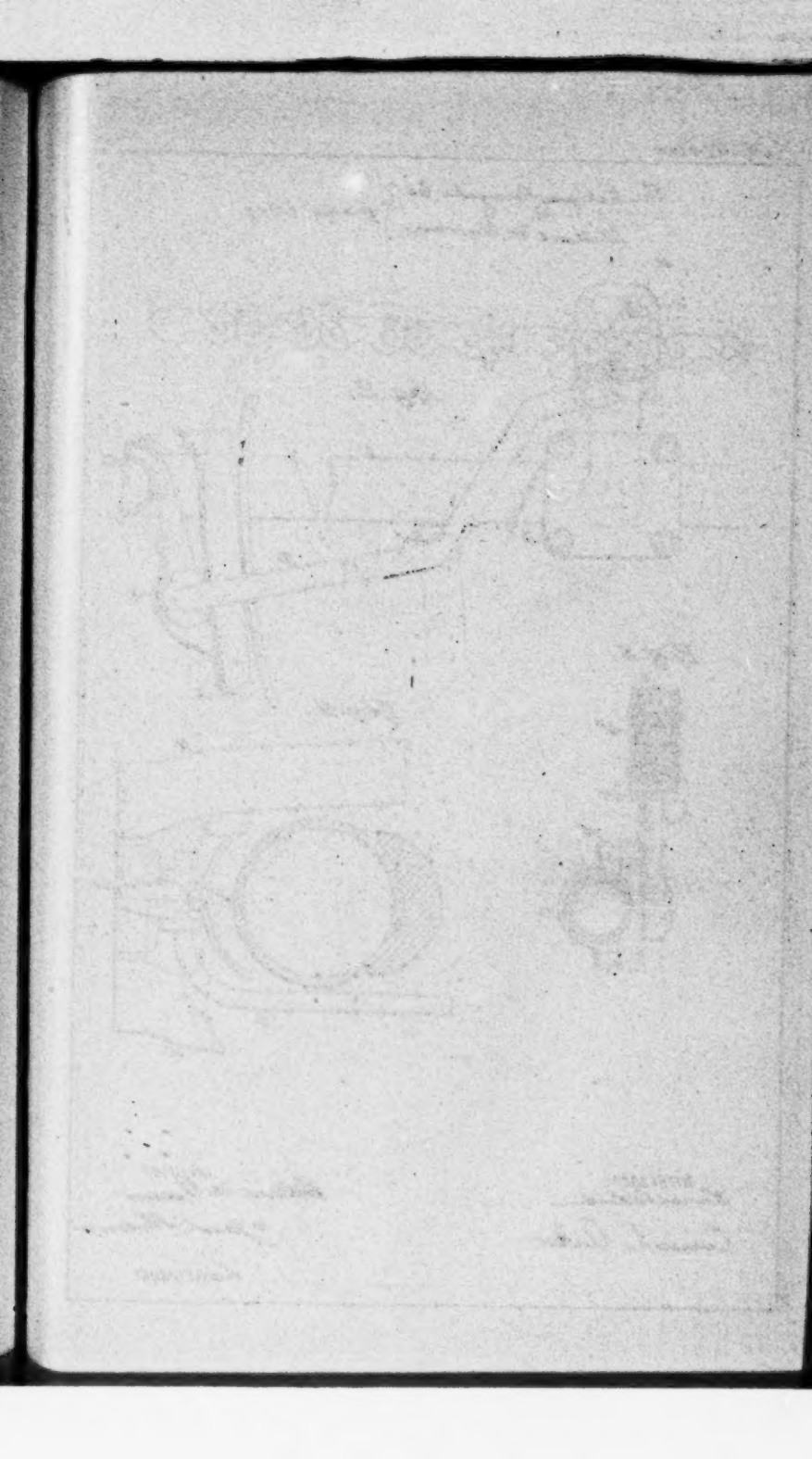


Fig. 1.

Witnesses.
Carrie L. Acker
Harry W. Wallis.

Inventor
Willard M. Farrow
by Geo. C. Whitmore
Her Attorney.



No. 614140

The Eclipse Bicycle Co
vs.
Willard M. Farrow
} page 104

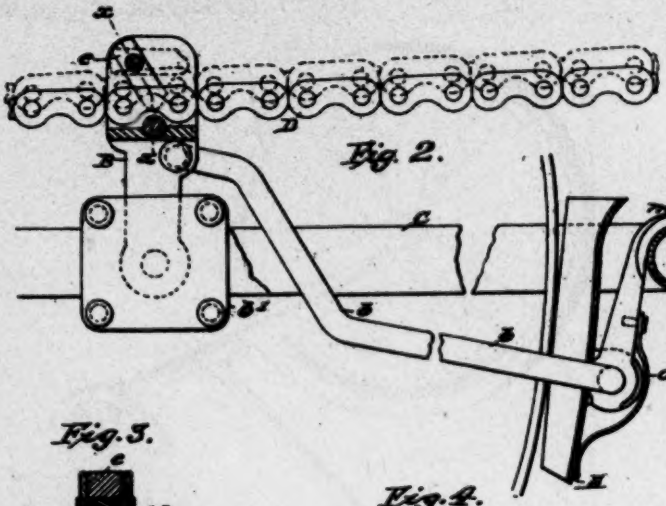
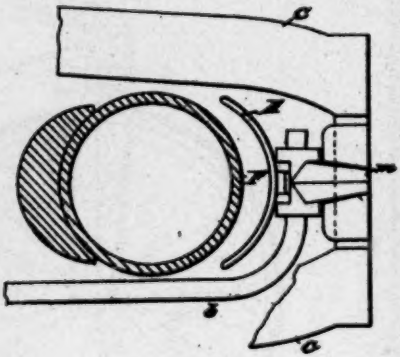


Fig. 2.

Fig. 3.

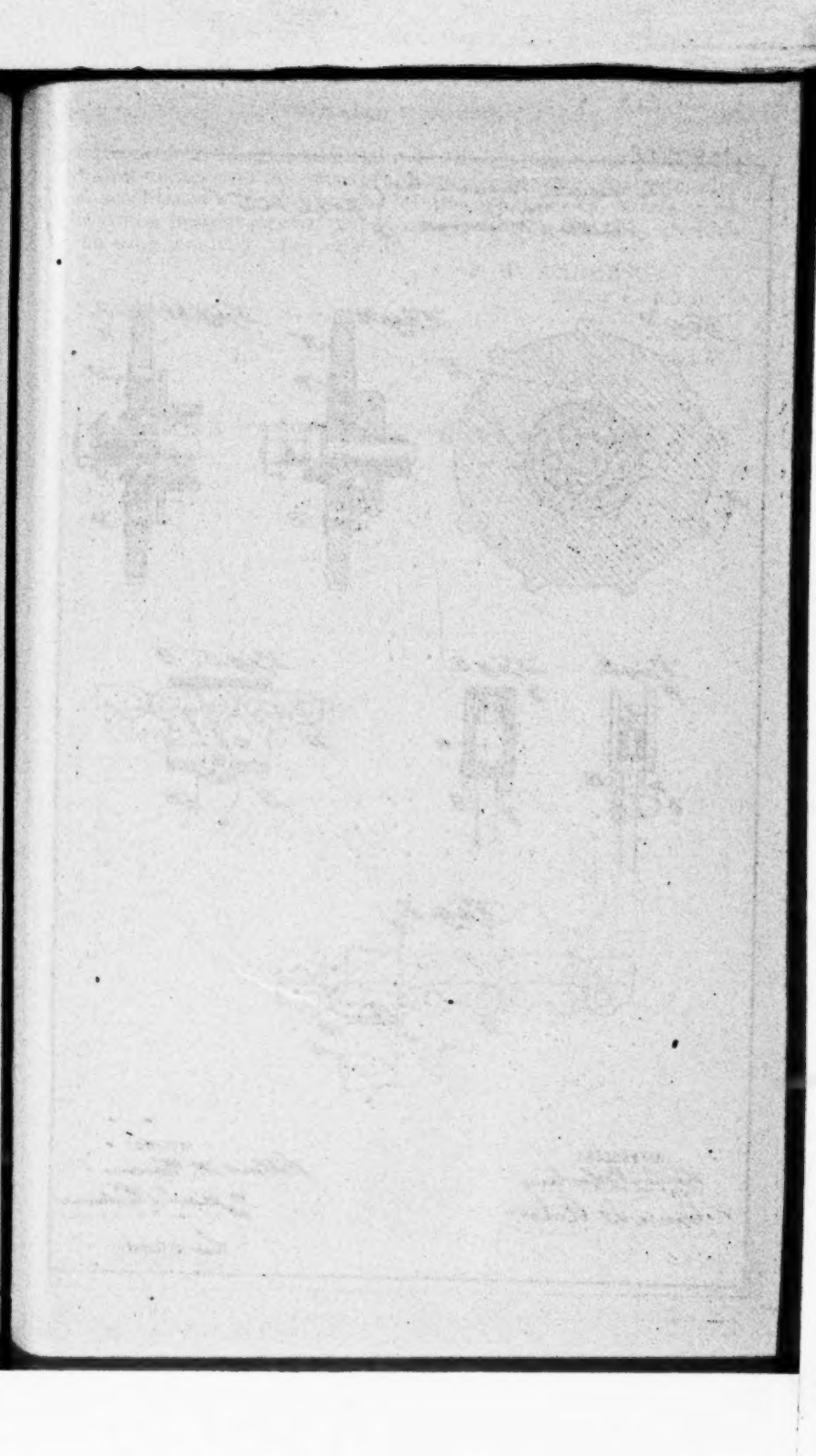


Fig. 4.



WITNESSES:
Homer B. Sheldon
Carrie L. Acker.

INVENTOR
Willard M. Farrow
by Jno. L. Sheldon
his ATTORNEY.



No. 614,140

The Eclipse Bicycle Co
vs.
Willard M. Farrar
page. 105

Fig. 9

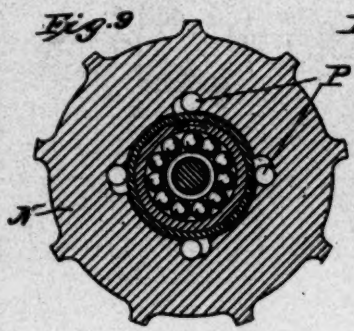


Fig. 10

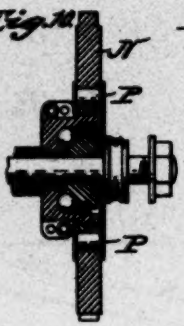


Fig. 11.

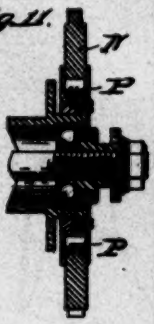


Fig. 8.



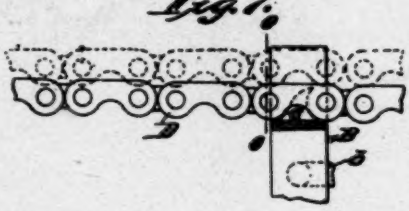
Fig. 6.



Fig. 5.



Fig. 7.



WITNESSES:
Homer B. Barber
Carrie L. Acker

INVENTOR
Willard M. Farrar
by Jas. L. Williams
his ATTORNEY.

Claims 1, 2, 3, and 6 and claim 4, which presents no patentable subject-matter over the issues of the interferences, are finally rejected in accordance with the decision of the examiner of interferences, awarding priority against you in interferences A, B, and C, in which you were involved. See rule 132.

J. W. ANDERSON,
Acting Examiner.

JOHNSON.

(Here follow drawings marked pages 103, 104, 105.)

2–080.

Interference B.

U. S. Patent Office,
Nov. 9, 1897,
Ex'm'r of interferences.

Room No. 240.

All communications should be addressed to "The Commissioner of Patents, Washington, D. C."

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *Nov.* 3, 1897 *18*—.

19093.

Examiner of interferences:

An interference is found to exist between the following cases and in respect to the invention therein specified, to wit:

107 *Cases.*

1. William Allen Phillips, of United States Army, for velocipede clutches & brakes, filed Dec. 28, 1896—Ser. No., 617,251—whose attorney is W. B. Richards, of Galesburg, Ill.; associate, L. S. Bacon, Washington, D. C.
2. Willard Milton Farrow, of Washington, D. C., for coaster & brake gear for bicycles, filed Dec. 1, 1896—Ser. No., 614,140—whose attorney is James L. Skidmore, of Washington, D. C.
3. Frederick Clark, of Clear Lake, Minn., for automatic brake, filed May 20, 1896—Ser. No., 592,365—whose attorney is C. A. Snow & Co., of Washington, D. C.

Invention.

The combination in a velocipede, with a driven or driving wheel, a drive-chain, and a clutch in said wheel, of a brake, and means for positively locking said chain and brake upon back-pedaling, to throw on the brake.

The issue is claim 26 of Phillips' application and includes also his claim 19, claims 3 and 6 of Farrow's, and claims 2, 3, and 4 of Clark's application.

This interference is declared under rule 96.

FRANK C. SKINNER, *Examiner.*

JOHNSON.

Interference in the U. S. Patent Office.

W. A. PHILLIPS
vs.
W. M. FARROW
vs.
F. CLARK.
} Interference 19093.

Preliminary Statement of W. A. Phillips.

William A. Phillips, 1st lieut. 2nd U. S. infantry, now of Fort Yates, in the county of Boreman and State of North Dakota, but formerly of Galesburg, Knox Co., Illinois, being duly sworn, doth depose and say that he is a party to the interference declared by the Commissioner of Patents Nov. 9th, 1897, between W. A. Phillips' application for letters patent, filed Dec. 28th, 1896—serial, 617,251—for velocipede clutches and brakes, and the application of W. M. Farrow, for coaster and brake gear for bicycles, and the application of F. Clark, for automatic brake; that he conceived the invention set forth in the declaration of interference on or about the first day of November, 1895; that on or about the 20th day of February, 1896, he made drawings of the invention; that on or about the 20th day of February, 1896, he first explained the invention to others; that he did not make any model of the invention; [that]*
108 that on or about the 5th day of March, 1896, he made a brake embodying the invention; that he embodied the invention in a full-sized bicycle, which was completed on or about the 5th day of March, 1896, and that on or about the 6th day of March, 1896, the said bicycle, with his invention embodied therein, was successfully operated in the streets of Galesburg, county of Knox and State of Illinois, and that he has since continued to use the same and has had others manufactured for use and sale.

WILLIAM A. PHILLIPS.

Subscribed and sworn to before me this 2nd day of December, A. D. 1897.

[NOTARIAL SEAL.] WILLIAM DOBSON,
Notary Public.

[* Words and figures enclosed in brackets erased in copy.]

In the United States Patent Office.

WILLIAM A. PHILLIPS
v.
FREDERICK CLARK
v.
W. M. FARROW.

Interference "B," No. 19093.
Subject-matter: Coaster and Brake Gear for Bicycles.

Preliminary Statement of W. M. Farrow.

Willard M. Farrow, of Washington, District of Columbia, being duly sworn, doth depose and say that he is a party to the interference declared by the Commissioner of Patents November 3d, 1897, between his application for patent filed Dec. 1, 1897, and bearing serial No., 614,140; the application of William A. Phillips, of Galesburg, Ill., and Frederick Clark, Clear Lake, Minn.; and—

That he conceived the invention set forth in the declaration of interference during the month of November, 1895; that he disclosed the invention to others during the spring and summer of 1896; that he made sketches and rough drawings of the invention in controversy during the month of June, 1896; that he made a full-size working model of his invention, and placed the same in practical operation in connection with a bicycle during the month of October, 1896, and that since October, 1896, he has made about one dozen practical operative devices, which latter have been applied to bicycles for every-day use.

WILLARD M. FARROW.

Subscribed and sworn to before me this 8th day of December, 1897.

JOS. H. BLACKWOOD,
Notary Public, D. C.

[NOTARIAL SEAL.]

109 In the United States Patent Office.

WILLIAM A. PHILLIPS
v.
FREDERICK CLARK
v.
W. M. FARROW.

Interference "B," No. 19093.
Subject-matter: Coaster and Brake Gear for Bicycles.

Preliminary Statement of W. M Farrow.

Willard M. Farrow, of Washington, District of Columbia, being duly sworn, doth depose and say that he is a party to the interference declared by the Commissioner of Patents November 3d, 1897, between his application for patent filed Dec. 1, 1896, and bearing

serial No., 614,140; the application of William A. Phillips, of Galesburg, Ill., and Frederick Clark, Clear Lake, Minn., and—

That he conceived the invention set forth in the declaration of interference during the month of November, 1895; that he disclosed the invention to others during the month of April, 1896; that he made sketches and rough drawings of the invention in controversy during the month of June, 1896; that he made a full-size working model of his invention and placed the same in practical operation in connection with a bicycle during the month of October, 1896, and that since October, 1896, he has made about one dozen practical operative devices, which latter have been applied to bicycles for every-day use.

WILLARD M. FARROW.

Subscribed and sworn to before me this 16th day of December, 1897.

F. D. BLACKISTONE,
Notary Public, D. C.

[NOTARIAL SEAL.]

Form No 1. 2–062.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *Dec.* 18, 1897.
Mailed " " "

In re Interference No. 19093.

PHILLIPS
v.
FARROW
vs.
CLARK.
} Subject-matter: Aotomatic Brake.

Before the examiner of interferences.

Wm. A. Phillips, c/o L. S. Bacon, city.
W. M. Farrow, c/o Jas. L. Skidmore, city.
Fred'k Clark, c/o C. A. Snow & Co., city.

The parties hereinafter named are hereby notified that as to their inventions adjudged to interfere with each other in the par-
110 ticulars specified in office letter of the 3d of Nov. a hearing will be granted on the 13th day of May, 1898.

No testimony to be taken before Jan. 7, '98.

Wm. A. Phillips, of U. S. Army, filed application Dec. 28, '96.

Testimony-in-chief must be closed Feb. 7, '98.

Attorney of record, W. B. Richards, Galesburg, Ills.

Willard M. Farrow, of Washington, D. C., filed application Dec. 1, '96.

Testimony must be closed Feb. 28, '98.
Attorney of record, James L. Skidmore, Washington, D. C.
Fred'k Clark, of Clear Lake, Minn., filed application May 20, '96.
Testimony must be closed M'ch 21, '98, restricted to record date.
Attorney of record, C. A. Snow & Co., Washington, D. C.
Rebutting testimony by Farrow must be closed April 5, '98.
" " " Phillips " " " " 20, "

WALTER JOHNSON,
Examiner of Interferences.

United States Patent Office. E. M. P.

PHILLIPS
v.
FARROW
v.
CLARK.

No. 19093.
Automatic Brake.

Application of Phillips filed December 28, 1896.
Application of Farrow filed December 1, 1896.
Application of Clark filed May 20, 1896.

Messrs. W. B. Richards and L. S. Bacon, attorneys for Phillips.
Mr. James L. Skidmore, attorney for Farrow.
Messrs. C. A. Snow & Co., attorneys for Clark.

The issue in controversy is defined as follows:
"The combination in a velocipede, with a driven or driving wheel, a drive-chain, and a clutch in said wheel, of a brake, and means for positively locking said chain and brake upon back-pedaling, to throw on the brake."

Phillips is the only party who has presented testimony. In his preliminary statement Phillips alleges that he conceived the invention in issue about November 1, 1895; that he made drawings and explained his invention to others about February 20, 1896; that on March 5, 1896, he made a complete device embodying the construction in issue, and that he has since continued to use the same and has had others manufactured for use and sale. The testimony presented by him fully establishes the truth of these allegations, and it is deemed unnecessary to review it in detail.

As the filing dates of the applications of both Farrow and of Clark are subsequent to the reduction to practice established
111 by Phillips, and as they are restricted to such filing dates by reason of their failure to file any testimony, it follows as a matter of course that neither of them can prevail.

Judgment of priority of invention is awarded to William A. Phillips. Limit of appeal from this decision will expire August 25, 1898.

WALTER JOHNSON,
Examiner of Interferences.

August 5, 1898.

(2-080.)

Interference C.

U. S. Patent Office,
Nov. 9, 1897,
Examiner of interferences.

Room No. 240.

All communications should be addressed to "The Commissioner of Patents, Washington, D. C."

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *Nov.* 3, 1897.

19094.

Examiner of interferences:

An interference is found to exist between the following cases and in respect to the invention therein specified, to wit:

Cases.

1. William Allen Phillips, of United States Army, for velocipede clutches & brakes, filed Dec. 28, 1896—Ser. No., 617,251—whose attorney is W. B. Richards, of Galesburg, Ill.; associate, L. S. Bacon, Washington, D. C.

2. Willard Milton Farrow, of Washington, D. C., for coaster & brake gear for bicycles, filed Dec. 1, 1896—Ser. No., 614,140—whose attorney is James L. Skidmore, of Washington, D. C.

Invention.

The combination in a bicycle, of a drive-chain, gear connection between said chain and the drive-wheel which permits of backward movement of the chain while the drive-wheel continues to rotate, and a brake device pivotally mounted on the bicycle and provided with a spur which engages the normally taut side or run of the drive-chain when said side or run slackens by arresting its forward movement, and a chain-keeper also mounted on said brake device to swing therewith, and in such position that the chain passes therethrough.

112 The issue is claim 21 of Phillips' application and is generic to claim 5 of Farrow's application.

This interference is declared under rule 96.

FRANK C. SKINNER.

JOHNSON.

Interference in the U. S. Patent Office.

W. A. PHILLIPS
vs.
W. M. FARROW. } Interference #19094.

Preliminary Statement of W. A. Phillips.

William A. Philips, 1st lieut. 2nd U. S. infantry, now of Fort Yates, in the county of Boreman and State of North Dakota, but formerly of Galesburg, Knox Co., Ill., being duly sworn, deposes and says that he is a party to the interference declared by the Commissioner of Patents Nov. 9th, 1897, between W. A. Phillips' application for letters patent filed Dec. 28, 1896—serial #, 617,251—for velocipede clutches and brakes, and the application of W. M. Farrow for coaster and brake gear for bicycles; that he conceived the invention set forth in the declaration of interference on or about the 1st day of November, 1895; that on or about the 20th day of February, 1896, he made drawings of the invention; that on or about the 20th day of Febuary, 1896, he first explained the invention to others; that he did not make any model of the invention; that on or about the 10th day of March, 1896, he made a brake embodying the invention; that he embodied the invention in a full-sized bicycle which was completed on or about the 10th day of March, 1896, and that on or about the 10th day of March, 1896, the said bicycle, with his invention embodied therein, was successfully operated in the streets of Galesburg, county of Knox and State of Illinois, and that he has since continued to use the same, and has had others manufactured for use and sale.

WILLIAM A. PHILLIPS.

Subscribed and sworn to before me this 2nd day of December, A. D. 1897.

WILLIAM DOBSON,
Notary Public.

[NOTARIAL SEAL.]

113 In the United States Patent Office.

WILLIAM A. PHILLIPS
v.
W. M. FARROW. } Interference "C," No. 19094.
Subject-matter: Coaster and Brake Gear for Bicycles.

Preliminary Statement of W. M. Farrow.

Willard M. Farrow, of Washington, District of Columbia, being duly sworn, doth depose and say that he is a party to the interference declared by the Commissioner of Patents November 3rd, 1897, between his application for patent filed Dec. 1, 1896, and bearing serial No., 614,140, and the application of William A. Phillips, of Galesburg, Ill.; and—

That he conceived the invention set forth in the declaration of interference during the month of November, 1895; that he disclosed the invention to others during the spring and summer of 1896; that he made sketches and rough drawings of the invention in controversy during the month of June, 1896; that he made a full-size working model of his invention, and placed the same in practical operation in connection with a bicycle during the month of October, 1896, and that since October, 1896, he has made about one dozen practical operative devices, which latter have been applied to bicycles for every-day use.

WILLARD M. FARROW.

Subscribed and sworn to before me this 8th day of December, 1897.

JOS. H. BLACKWOOD,
Notary Public, D. C.

[NOTARIAL SEAL.]

(2–062.)

U. S. Patent Office,
Dec. 18, 1897.
Mailed ——.

Room No. 1.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *Dec.* 18, 1897.

In re Interference No. 19094.

PHILLIPS
vs.
FARROW.
} Subject-matter: Automatic Brakes.

Before the examiner of interferences.

Wm. A. Phillips, c/o L. S. Bacon, city; W. M. Farrow, c/o James L. Skidmore, Washington, D. C.:

The parties hereinafter named are hereby notified that, as to their inventions adjudged to interfere with each other in the par-
114 ticulars specified in office letter of the 3d November, a hearing will be granted on the 7th day of April, 1898.

The testimony of the respective parties must be closed previous to the dates hereinafter designated.

No testimony to be taken before Jan. 7, '98.

William A. Phillips, of U. S. Army, filed application Dec. 28, '96.

Testimony-in-chief must be closed Feb. 7, '98.

Attorney of record, W. B. Richards, Galesburg, Ills.

W. M. Farrow, of Washington, D. C., filed application Dec. 1, '96.

Testimony must be closed Feb. 28, '98.

Attorney of record, James L. Skidmore, Washington, D. C.

Rebutting testimony by Phillips must be closed M'ch 15, '98.

WALTER JOHNSON,
Examiner of Interferences.

United States Patent Office. K. V. D.

PHILLIPS vs. FARROW. } No. 19094. Automatic Brakes.

Application of Phillips filed December 28, 1896.
Application of Farrow filed December 1, 1896.

Messrs. W. B. Richards and L. S. Bacon, attorneys for Phillips.
Mr. James L. Skidmore, attorney for Farrow.

The issue in controversy is defined as follows:

"The combination in a bicycle, of a drive-chain, gear connection between said chain and the drive-wheel which permits of backward movement of the chain while the drive-wheel continues to rotate, and a brake device pivotally mounted on the bicycle and provided with a spur which engages the normally taut side or run of the drive-chain when said side or run slackens by arresting its forward movement, and a chain-keeper also mounted on said brake device to swing therewith, and in such position that the chain passes therethrough."

The only testimony presented is that filed in behalf of Phillips.

Phillips alleges in his preliminary statement that he conceived the invention in issue about November 1, 1895; that he made drawings of and explained his invention to others about February 20, 1896; that about March 10, 1896, he completed and operated a brake such as the issue defines, and that he has since continued to use the same, and has manufactured others for use and sale.

The testimony presented by Phillips fully establishes the truth of all of these allegations, and it is unnecessary to review it in detail.

As Farrow is restricted to his record date by reason of his failure to present testimony, it is obvious he cannot prevail.

115 Judgment of priority of invention is awarded to William A. Phillips.

Limit of appeal from this decision will expire August 25, 1898.

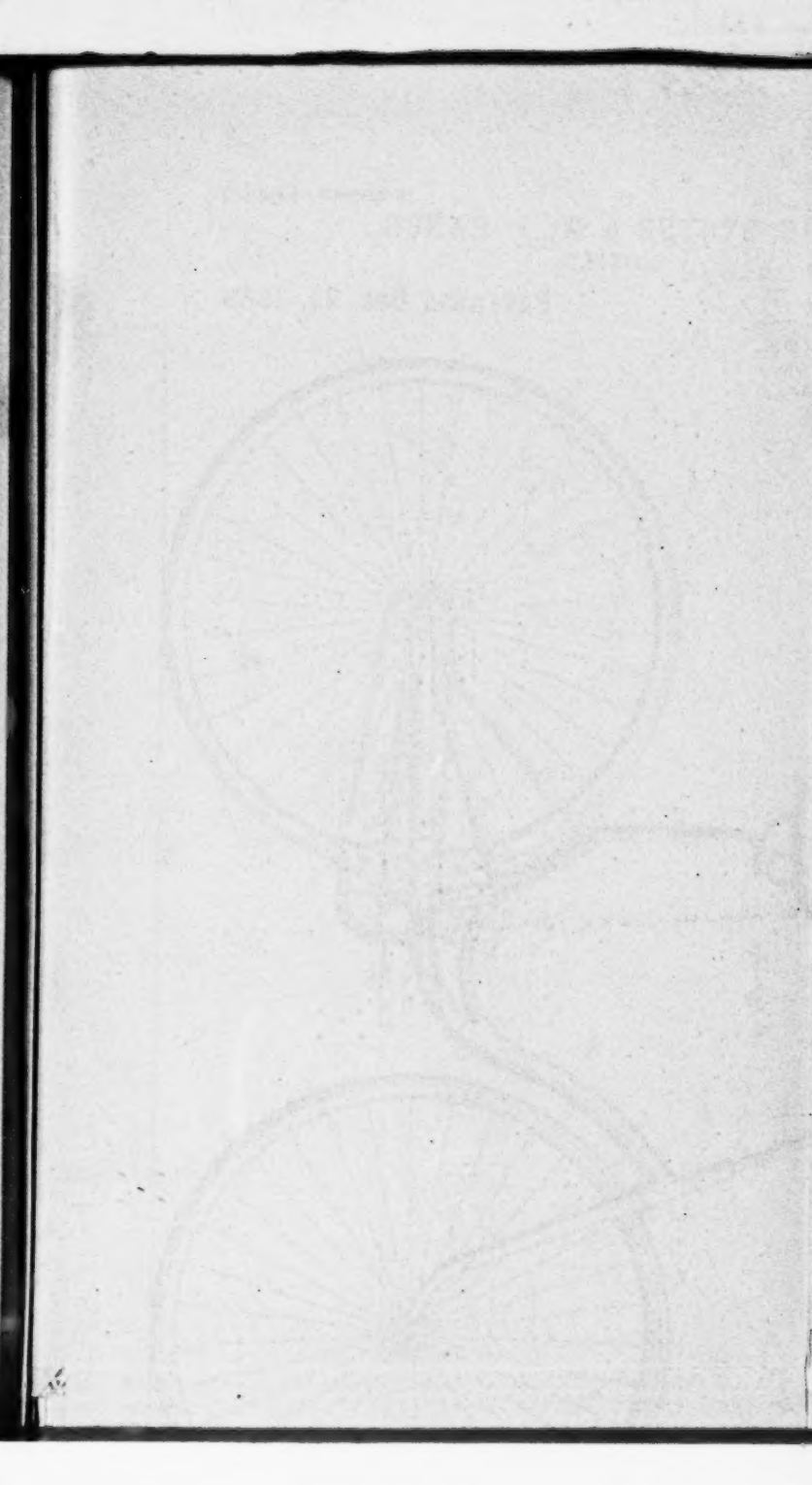
WALTER JOHNSON,
Examiner of Interferences.

August 5, 1898.

It is hereby stipulated and agreed as a fact in this case that the within patent, No. 418,142, issued to Stover & Hance, was regularly assigned and transferred to the Eclipse Bicycle Company under date of November 11th, 1897.

It is further stipulated and agreed that the said Stover & Hance patent and patent No. 611,073, issued to Morrow, were introduced as evidence in this case and constitute a part of the record of this case, to be known as "Exhibits 10 and 11" respectively.

JOHN C. GITTINGS,
Of Solicitors for Compl't.
MACKALL & MAEDEL,
Sol'rs for Def't.



(No Model.) 3 Sheets—Sheet 1.

D. C. STOVER & W. A. HANCE.

BICYCLE.

No. 418,142. Patented Dec. 24, 1889.

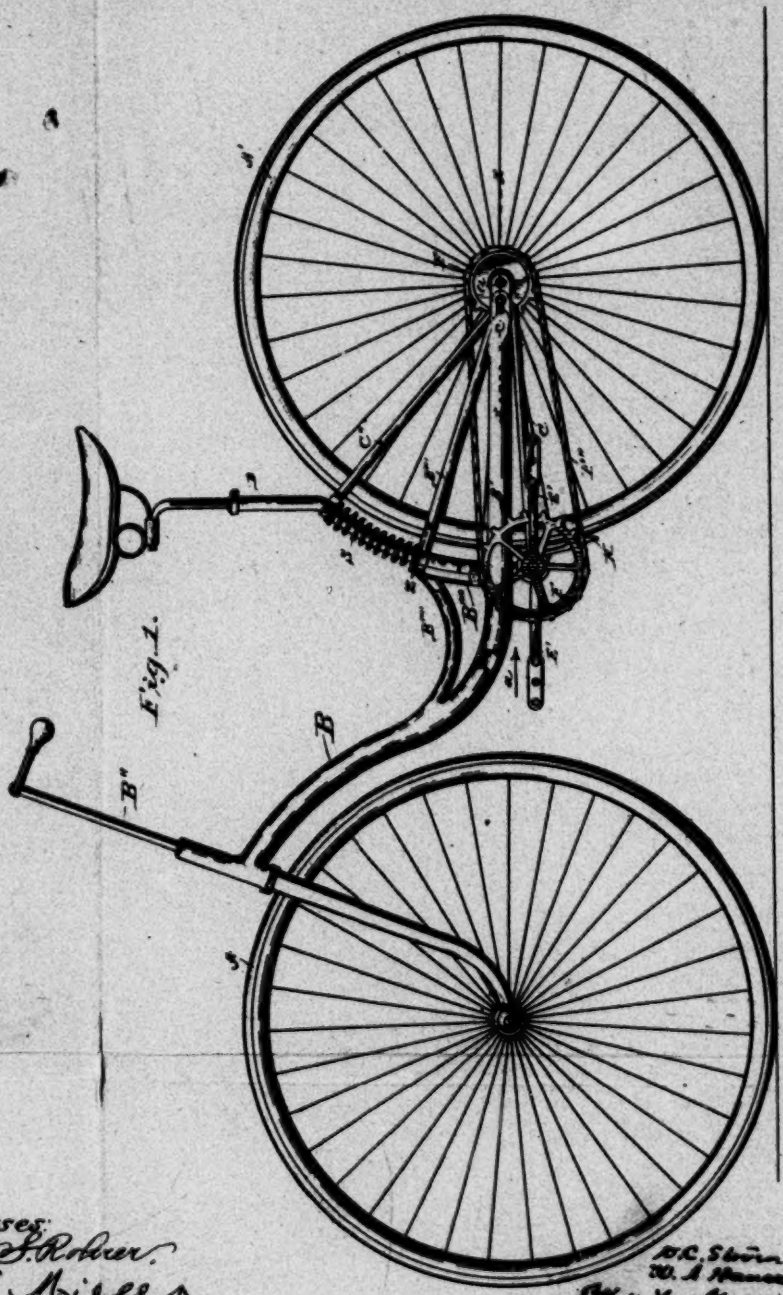


Fig. 1.

Witnesses:
Harry S. Robertson
Lee E. Miller

D. C. Stover
W. A. Hance
by Wales & Hanson
Atty's.

(No Model.) 3 Sheets—Sheet 2.

D. C. STOVER & W. A. HANCE.

BICYCLE.

No. 418,142. Patented Dec. 24, 1889.

Fig. 2.

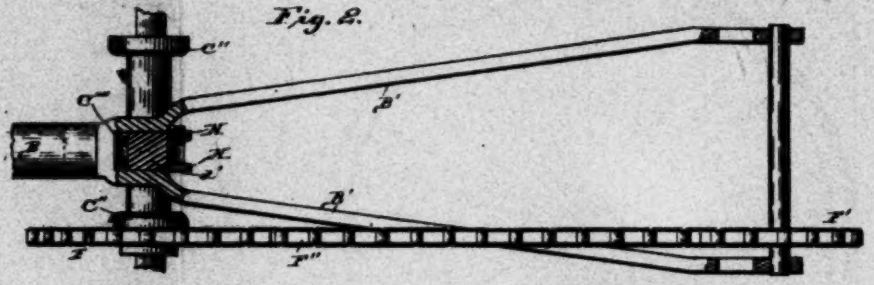


Fig. 8.

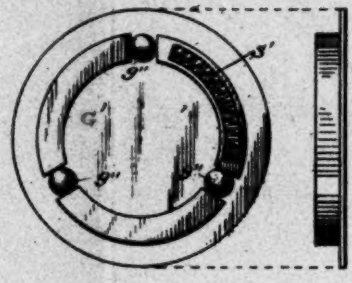


Fig. 9.

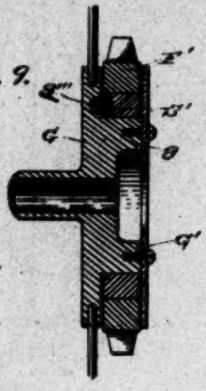
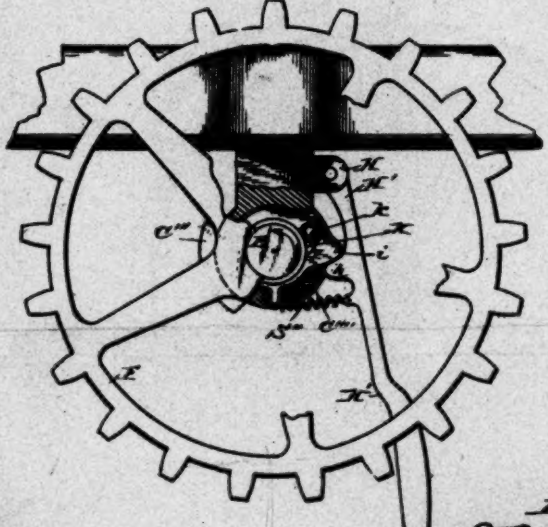


Fig. 10.



Witnesses:
Emmy L. Rohrer
D. F. Miller

Inventor:
D. C. Stover.
W. A. Hance.
By Poles & Hance,
Attorneys

(No Model.) 3 Sheets—Sheet 3.

D. C. STOVER & W. A. HANCE.

BICYCLE.

No. 418,142. Patented Dec. 24, 1889.

Fig. 1.

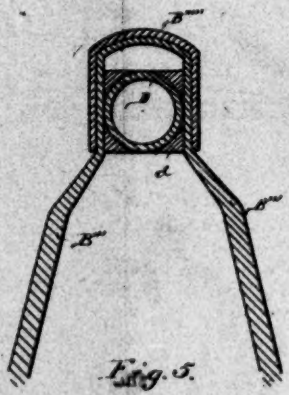


Fig. 3.

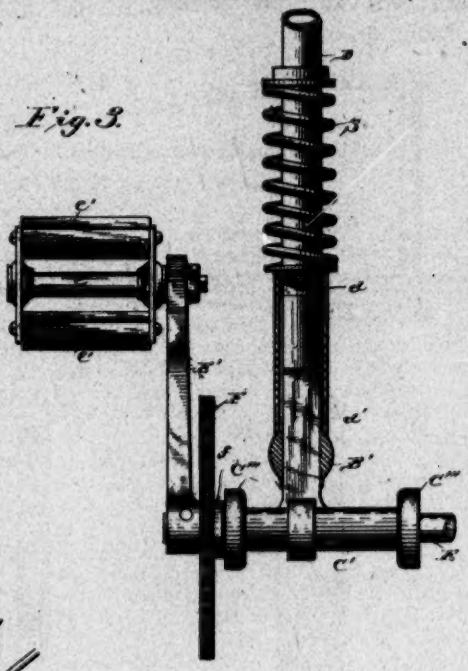


Fig. 5.

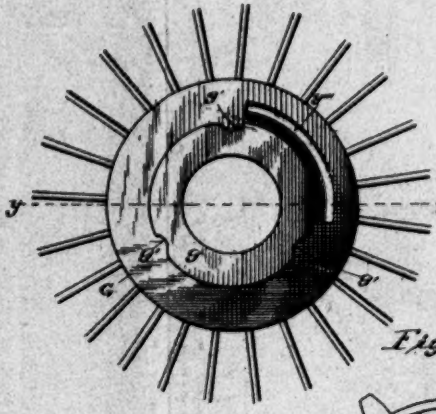


Fig. 6.

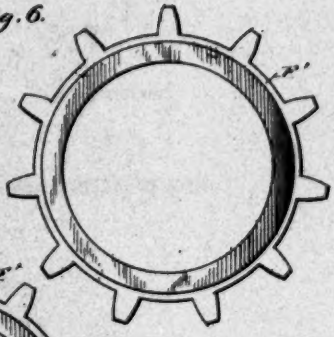
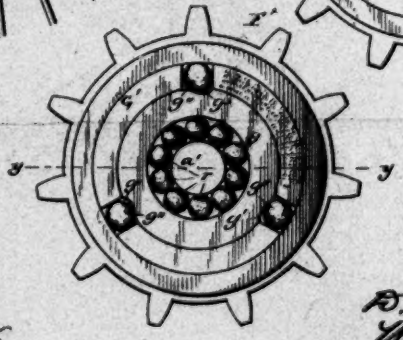


Fig. 7.



Witnesses:

Harry S. Rohrer.

Lee L. Miller

Inventor.

D. C. Stover,

W. A. Hance,

By Giles & Wynne

Attorneys

UNITED STATES PATENT OFFICE.

DANIEL C. STOVER AND WILLIAM A. HANCE, OF FREEPORT, ILLINOIS, ASSIGNORS TO THE STOVER BICYCLE MANUFACTURING COMPANY, OF SAME PLACE.

BICYCLE.

SPECIFICATION forming part of Letters Patent No. 418,142, dated December 24, 1889.

Application filed August 21, 1889. Serial No. 321,611. (No model.)

To all whom it may concern:

Be it known that we, DANIEL C. STOVER and WILLIAM A. HANCE, residents of Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Bicycles; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

Our invention relates to improvements in bicycles, and is fully described and explained in this specification, the object and nature of the invention being set forth in detail in such explanation and description.

In the accompanying drawings, which illustrate the invention, Figure 1 is a view of a complete bicycle, partly in side elevation and partly in vertical section. Fig. 2 is a view, partly in top plan and partly in horizontal section, showing the forks B' C in their relative positions and in connection with certain other parts of the machine, the plane of section being through the line X X, Fig. 1. Fig. 3 is a view partly in front elevation and partly in vertical section, showing a portion of the main frame and of the vertically-oscillating seat-frame and other parts connected therewith. Fig. 4 is an oblique section through the line Z Z, Fig. 1. Figs. 5, 6, 7, 8, and 9 are detail views illustrating the connection of the rear sprocket-wheel F' with the hub of the rear wheel of the machine, Fig. 9 being a section through the line Y Y of Figs. 6 and 7. Fig. 10 is an enlarged view, partly in side elevation and partly in vertical section, illustrating the brake mechanism mounted on and operated by the shaft of the main sprocket-wheel F.

In the views, A A' are the front and rear wheels, respectively, of a bicycle, said wheels being loosely mounted on their axles *a a'*, the front wheel being of ordinary construction and the rear wheel also being of ordinary construction except as to its hub, which has certain peculiarities, whose nature and purpose are hereinafter fully set forth.

A backbone B, of ordinary tubular form, is provided at its rear end with two members B' B', forming a fork whose ends are fastened to the axle *a'* of the rear wheel, and a slightly-oblique standard B'' is journaled in the front end of the backbone, and is provided with a fork whose lower ends are fastened to the front axle *a*. The backbone B and fork B' are strengthened by means of oblique braces B''', extending forward and upward from the rear ends of the members B', and an oblique brace B'''', extending backward and upward from a point on the backbone in front of the junction of the backbone with the members B', the backbone and the braces B''' B'''' being bound together and formed into a solid truss by a short standard B''''', extending upward from the backbone to the junction of the braces. This connecting-standard is U-shaped in horizontal section, its rear edge being open, and the braces B''' are joined together at their front ends and bent to coincide with the inner surface of the standard, as illustated in Fig. 4, the inner faces of those parts of the braces lying within the standard being preferably parallel, as shown in said figure. The backbone B, fork B', braces B''' B'''', open standard B''''', and swiveled standard B'' form the main frame of the machine, and this frame supports the seat and the operating mechanism in the manner hereinafter described.

To the rear end of the main frame above described is pivoted a vertically-oscillating seat-supporting frame made up of two lower members C, whose front ends are rigidly fastened to and connected by a tubular shaft-box C', two oblique braces C'', extending upward and forward from the rear ends of the members C, and a standard D, rigidly connecting the box C' with the front ends of the braces C''. The rear end of the oscillating frame lies between the members B' of the main frame, and is pivoted in said members in such a way as to allow slight adjustment of the point of connection of the two frames for the purpose of moving the oscillating frame forward or back with reference to the main frame. That portion of the standard D between the box C' and the front ends of the braces C'' is an arc of a circle having for its center the pivot of the oscillating frame, and lies partly within and partly above and below the standard B''''' of the main frame. The curved standard D is in the main cylindrical in form, but is provided with two squared portions d d', fitted closely and slid-

ing freely up and down in guides in the main frame, as illustrated in Figs. 2 and 4, the squared portions of the standard being so placed in the guides in the main frame as to permit the adjustment from front to rear provided for by the manner of pivoting the oscillating frame to the main frame. A stop *c* is rigidly fastened to the standard D at the upper end of the curved portion referred to, and a spring S is interposed between this stop and the upper surface of the standard B'''' of the main frame, thus supporting the oscillating frame in its normal position and offering a yielding resistance to its downward movement with reference to the main frame. The standard D extends vertically upward from the upper end of the curved portion referred to, and supports at its upper end a seat adjustably fastened to it in the ordinary manner and for the ordinary purpose.

In the box C' at the front end of the oscillating frame is journaled a shaft E, the box being provided with enlarged chambers C''', for receiving ball or roller bearings of ordinary construction, and on this shaft are rigidly keyed or otherwise fastened two cranks E' and a sprocket-wheel F. A second sprocket-wheel F' is mounted on the rear axle *a'* of the machine, and a chain F'' connects the two sprocket-wheels and transmits the rotation of the driving-sprocket F to the driven sprocket-wheel F'. The adjustment of the oscillating frame with reference to the main frame in the manner hereinbefore described provides for increasing or decreasing the distance between the sprocket wheels, and thus renders it possible to tighten or loosen the chain without changing the position of either of the axles *a a'* of the machine.

It is evident from the foregoing description that the rider's seat and the driving sprocket-wheel F will always be separated by the same distance, since they are both supported by the oscillating frame, and this construction is a very great advantage, since it permits free vertical movement of the rider's seat with reference to the main frame without that variation of the distance between the seat and the sprocket-wheel shaft which is a disagreeable feature of the operation of many machines of this class.

In the use of a bicycle it is frequently convenient to be able to stop the motion of the driving-cranks while the machine moves forward and the wheels rotate, and we have illustrated in Figs. 5, 6, 7, 8, and 9 a mechanism providing for such cessation of the motion of the cranks whenever it may be desirable. In this figure, G is the hub of the rear wheel of the machine, and is provided on its outer face with a hollow boss *g*, formed with cam-shaped peripheral notches *g'*. The ring G' encircles the boss *g* and carries in suitable slots a series of balls or rollers *g''*, corresponding in relative positions with the notches *g'* of the boss. The sprocket-ring F' encircles the ring G', its inner circumference being in contact with the balls or rollers *g''*. A spring S', lying partly in a groove *g'''* in the face of the hub G, and partly in a corresponding groove in the contiguous face of the ring G', presses the ring in the direction indicated by the arrow on the sprocket in Fig. 7, and thus holds the balls or rollers *g''* in contact with the inner circumference of the sprocket-ring and with the outer surface of the boss *g*. The axle *a'* of the wheel lies within the boss *g*, and is held in position with reference thereto by means of anti-friction balls or rollers *r* in the usual manner, and a suitable end plate binds all the parts together. It is evident that so long as the sprocket-wheel is rotated in the direction indicated by the arrow in Fig. 7 the balls *g''* will bind between the sprocket-ring and the boss *g*, and thus form a rigid connection of the sprocket-ring and the hub of the wheel *a'*, and, on the other hand, if the sprocket-wheel be stopped and the wheel A' continue to move in the same direction as before, the balls *g''* will drop back into the deeper portions of the notches *g'*, and thus disconnect the sprocket-ring and hub. In other words, the device illustrated and described is a friction-clutch adapted to connect the sprocket-ring with or disconnect it from the hub, as desired. This being the case, it is evident that when the machine is moving forward the cranks E' and sprocket-wheel F may be held stationary, and the wheel A' will at once be disconnected from the sprocket-ring F', leaving the wheels A A' free to rotate. It is thus possible when the machine is running down an incline to hold the pedals stationary with the feet, while both wheels A A' turn freely, and this is a great improvement over the ordinary construction, in which the feet must either move with the cranks so long as the machine moves forward, or if taken from the cranks must be returned thereto while the cranks are rotating.

In every machine of this class it is necessary to provide some sort of a brake and means for pressing it against the rim of one of the wheels. The principal element of the brake-operating mechanism has heretofore been a hand-lever; but as the first movement when it is desired to stop the machine is naturally the reversal of the motion of the cranks of the driving-sprocket we have embodied in this machine a brake mechanism adapted to be operated by such reversal of the crank motion, the mechanism referred to being illustrated in Fig. 10. In this figure, H is one of two similar ears formed on the rear face of the standard of the oscillating frame at a point a short distance above the box C', and H' is a brake whose upper end lies between and is pivoted to said ears, while its lower end has a concave rear face in close proximity to the rim of the wheel A'.

C'''' is an enlargement of the box at a point in the vertical plane of the standard,

and this enlargement is recessed to make room for a ring I, fitted loosely on the shaft E and provided with a rearwardly-projecting lug *i*, which rests upon and inclined lug *h* on the front edge of the brake H′. A spring S″ is fastened to the brake H′ and to a lug *i*′ upon the lower margin of the ring I, and draws the two parts together, thus holding the brake out of contact with the wheel and lifting the lug *i* of the ring upward to its limit of motion. A cam-shaped notch K is formed in the inner margin of the ring I, and incloses a ball or roller *k*, which impinges upon the surface of the shaft E. It is evident that so long as the shaft E turns in the direction indicated by the arrow in Fig. 10 the ball or roller *k* will be loose in the notch in which it lies and the ring I will be disconnected from the shaft E; but that if the rotation of the shaft be reversed the ball or roller will drop down into the narrow lower end of the notch and bind the ring and shaft together, thus pressing the lug *i* of the ring downward and forcing the brake against the wheel. This is in fact a friction-pawl arrangement adapted to leave the ring free from the shaft so long as the latter turns in the direction indicated by the arrow, but to rigidly connect the ring and shaft whenever the motion of the latter is reversed. This construction not only does away with a considerable part of the operating mechanism, but it also enables the operator to set the brake by the reverse movement of the cranks, which, as has been said before, is naturally the first movement made by the operator when he desires to stop the machine. This feature of construction is not only advantageous itself, but it is especially adapted for use with mechanism permitting the stopping or reversal of the cranks while the wheels of the machine are in motion, since its combination with such mechanism enables the operator to instantly stop the cranks and put his weight upon the brake-operating mechanism.

It is evident that many of the details of construction of this machine may be varied without affecting the principle of operation of its important elements. We desire, therefore, not to limit our invention to the precise forms shown and described herein, but to secure by Letters Patent what we believe to be new therein, as set forth in the following claims, to wit:

1. The combination, with the wheels, their axles, and the main frame connecting the axles, of a second frame supporting the seat and the driving-shaft and having its rear end connected to the main frame by pivots adjustable in distance from the rear axle, a spring supported by the main frame and itself supporting the front end of said second frame, sprocket-wheels mounted, respectively, upon said driving-shaft and rear axle, and a drive-chain connecting the sprocket-wheels, substantially as and for the purpose set forth.

2. The combination, with the wheels A A′ and their axles *a a*′, of the frame connecting them and made up of the backbone B, forks B′ braces B‴ B⁗, standards B⁗′, and swiveling standard B″, journaled in the backbone B, and provided with a fork *b*, the lower end of the fork *b* being supported by the axle *a* and the rear end of the fork *b*′ by the axle *a*′.

3. The combination, with the sprocket-wheel F, of the hub G, having the boss *g*, formed with the peripheral notches *g*′, the ring G′, carrying the balls *g*″, the spring S, interposed between the ring and hub and holding them normally in proper relative positions, the sprocket-ring F′, encircling the ring G′ and having its inner circumference in contact with said balls, and the chain F″, connecting the sprocket-wheels F F′, substantially as and for the purpose set forth.

4. In a bicycle, the combination, with the wheels and their axles, of a frame supported by and connecting the axles, a driving-shaft supported by the frame and provided with means for its rotation, a brake adapted to be pressed against the rim of one of the wheels of the machine, and means connecting said driving-shaft with the said brake, whereby the backward rotation of the shaft presses the brake against said wheel-rim, substantially as and for the purpose set forth.

5. The combination, with the wheels A A′ and their axles, of the frame supported by and connecting the axles, the driving-shaft E, supported by the frame and provided with cranks for its rotation, the oscillating brake H, adapted to be pressed against the rim of the wheel A′, the ring J, loosely mounted on the shaft and adapted when rotated backward to press the brake against the wheel-rim, and means interposed between the ring I and the shaft E, whereby backward rotation of the shaft rotates the ring backward, thereby pressing the brake against the wheel-rim, substantially as and for the purpose set forth.

6. The combination, with the wheel A′, shaft E, and cranks E′, of the oscillating brake H, adapted to be pressed against the wheel, the ring I, loosely mounted on the shaft E and provided with a lug *i*, adapted when pressed downward to press the brake against the wheel-rim, and the pawl *k*, interposed between the ring I and shaft E and adapted to permit forward rotation of the shaft without movement of the ring, but to bind the shaft and ring together when the rotation of the shaft is reversed, substantially as and for the purpose set forth.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

DANIEL C. STOVER.
WILLIAM A. HANCE.

Witnesses:
R. H. WILES,
J. A. CRAIN.

No. 611,073. Patented Sept. 20, 1898.

A. P. MORROW.

BACK PEDALING BRAKE.

(Application filed July 19, 1897.)

(No Model.) 2 Sheets—Sheet 1.

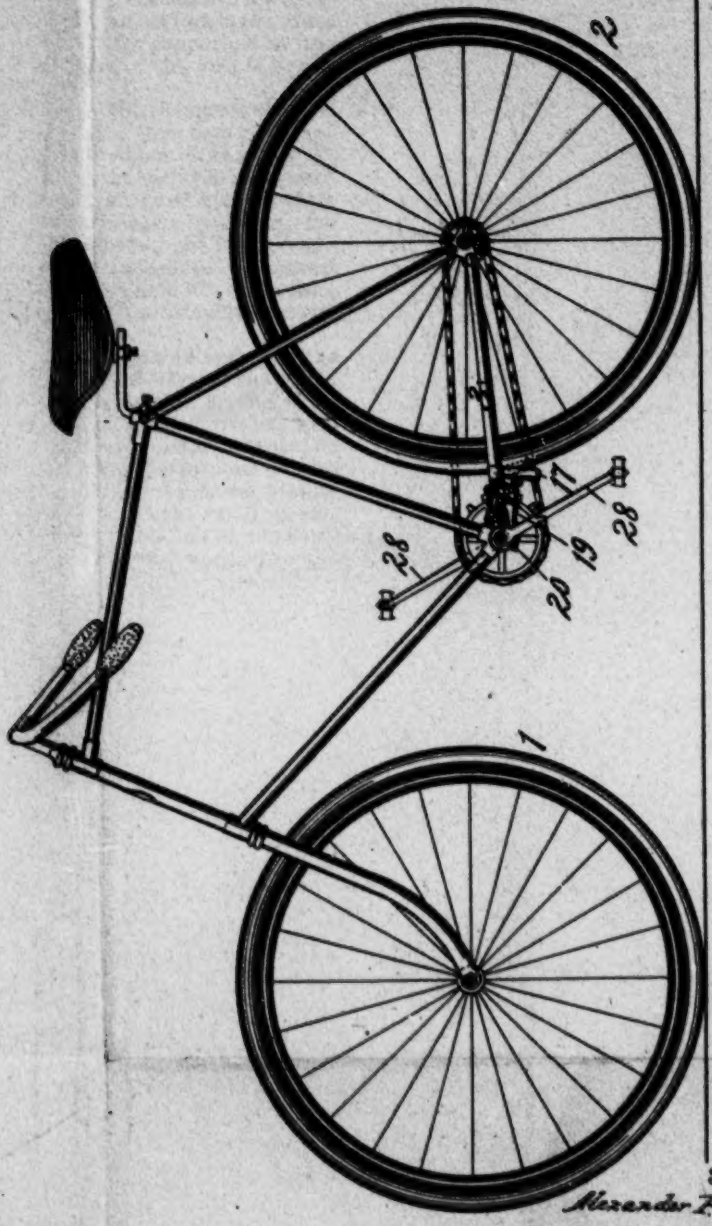
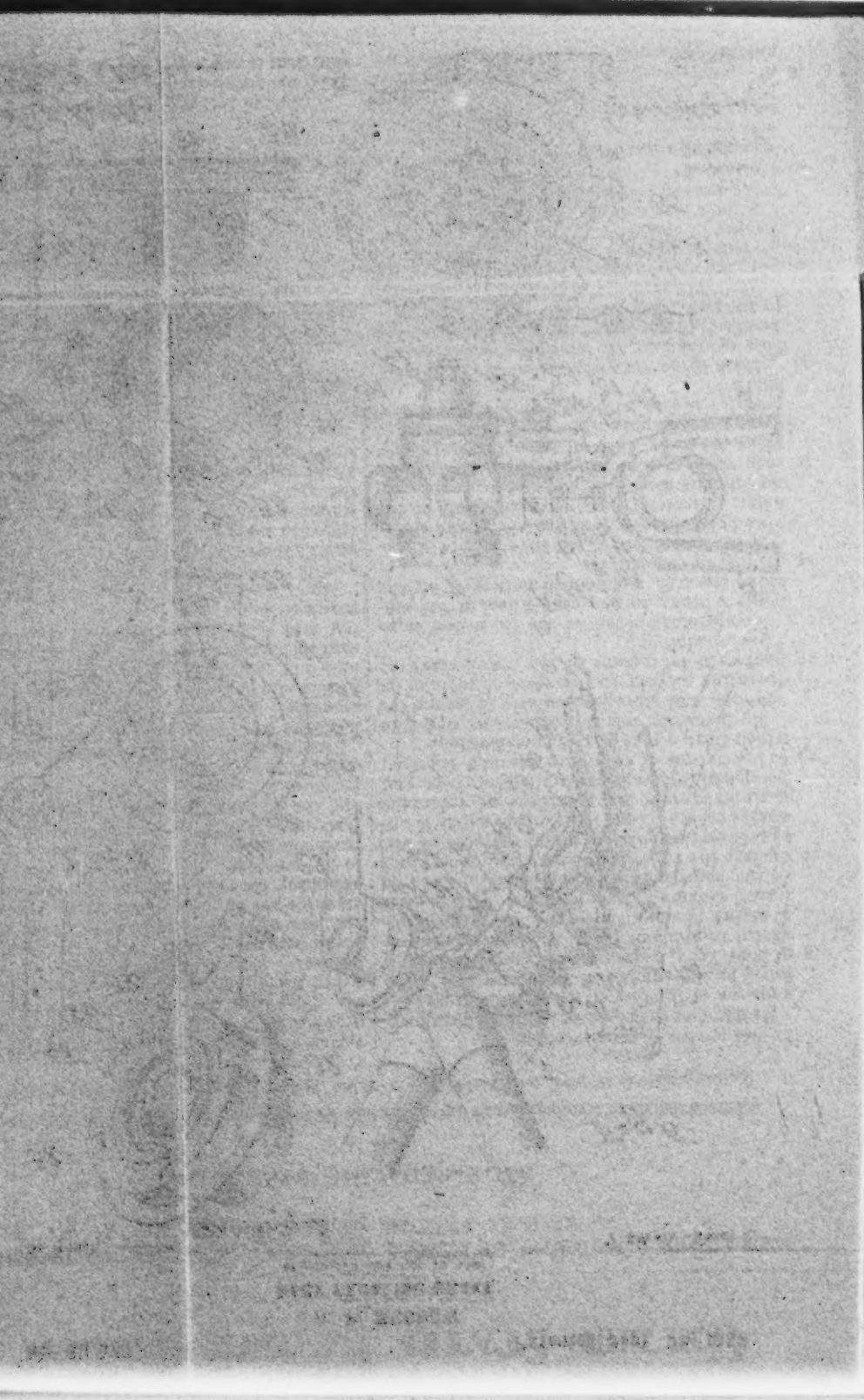


Fig. 1.

Witnesses
F. H. Schott
Albert Popkins

Inventor
Alexander P. Morrow
by Geo. L. Shidmore
his Attorney.



No. 611,073. Patented Sept. 20, 1898.

A. P. MORROW.

BACK PEDALING BRAKE.

(Application filed July 19, 1897.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 2.

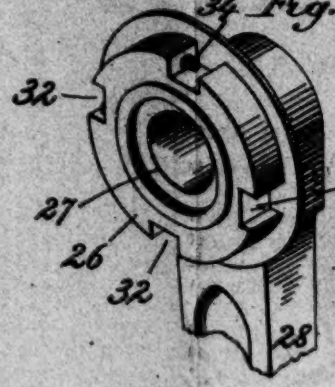


Fig. 6.

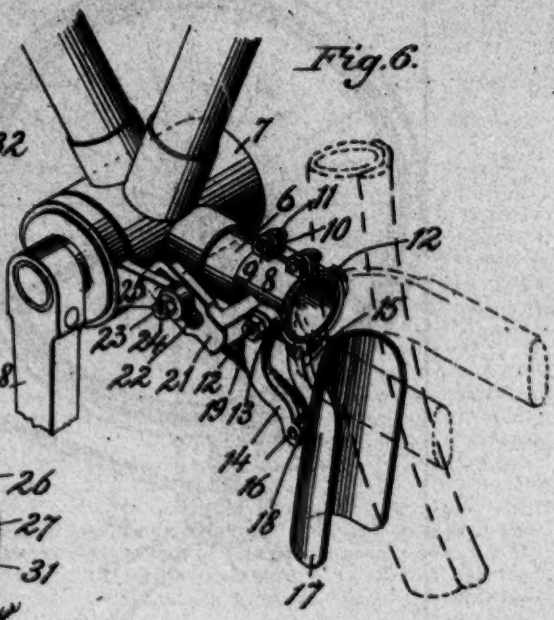


Fig. 3.

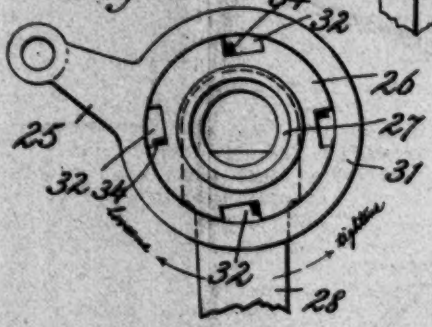


Fig. 7.

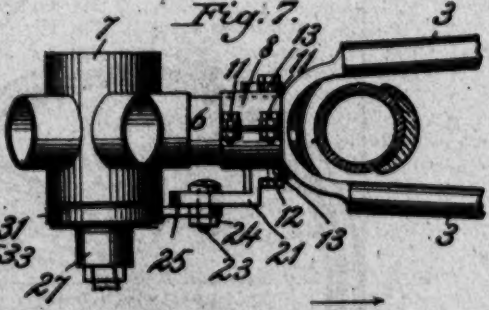


Fig. 4.

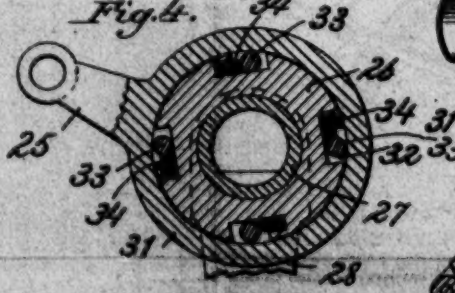


Fig. 5.

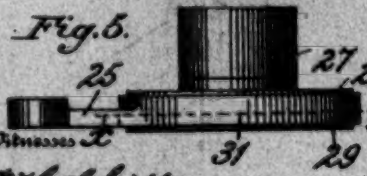


Fig. 8.



Witnesses:

F. H. Schutt.

Albert Popkins.

Inventor

Alexander P. Morrow

by Jno. L. Whitmore

his Attorney.

UNITED STATES PATENT OFFICE.

ALEXANDER P. MORROW, OF ELMIRA, NEW YORK, ASSIGNOR OF ONE-HALF TO H. H. FULTON, OF SAME PLACE.

BACK-PEDALING BRAKE.

SPECIFICATION forming part of Letters Patent No. 611,078, dated September 20, 1898.

Application filed July 19, 1897. Serial No. 645,190. (No model.) Patented in England August 3, 1897, No. 18,105.

To all whom it may concern:

Be it known that I, ALEXANDER P. MORROW, a citizen of the United States, residing at Elmira, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Bicycle-Brakes and Coasting Mechanism, (for which I have obtained Letters Patent in Great Britain, No. 18,105, bearing date August 3, 1897;) and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to bicycles and like vehicles, and more particularly to means for operating a brake in this class of vehicles by backward movement of the crank-shaft, or "back-pedaling."

The primary object of the invention is to apply a brake to the rear wheel of the machine through mechanism arranged on the driving or crank shaft.

A further object of the invention is to provide a bicycle or like vehicle with brake mechanism operated from the crank-shaft of the machine by back-pedaling and to provide the rear wheel of the machine with shifting devices whereby said wheel may be quickly thrown out of gear with the driving-shaft to permit coasting without revolving the crank-shaft.

With these main objects in view the invention consists in the characteristic features hereinafter more fully described, and defined in the appended claims.

The construction illustrated in the accompanying drawings is one embodiment of the invention, which I have found to be satisfactory in operation.

Figure 1 is a side elevation of a bicycle with my improvements applied thereto, the normal position of the brake-shoe and its connections being shown in full lines and the dotted lines indicating the position of the brake-shoe and its connections when the brake is applied. Fig. 2 is a detail perspective view of a part of one of the crank-arms with my improved clutch-disk applied thereto. Fig. 3 is an elevation of the clutch-disk with the clutch-ring provided with a projecting arm applied thereto. Fig. 4 is a vertical section on the line *x x* of Fig. 3 with the rollers of the clutch in position. Fig. 5 is a top or plan view of the crank-arm and clutch. Fig. 6 is a detail perspective view with parts of the frame of the machine broken away, showing the means for attaching the brake-shoe and its connections to the machine. Fig. 7 is a plan view of the parts shown in Fig. 6, and Fig. 8 is a vertical section through the rear sprocket-wheel and the clutch mechanism arranged therein for permitting coasting without revolving the crank-axle and pedals.

The reference-numerals 1 and 2 respectively indicate the front and rear wheels of the machine. The rear fork 3 of the frame is provided with the usual bearings 4 for the axle 5 of the rear wheel, and the front end of said fork 3 terminates in a forwardly-projecting arm 6, joined to the bearing 7 of the crank-axle.

Upon the arm 6 of the rear fork is secured a split band 8, provided with opposing lugs 9 and 10, secured together by bolts 11, and from opposite sides of this band 8 project lugs 12, which constitute the fulcrum-supports for the upper ends 13 of a pair of levers 14 and 15, arranged one on either side of the arm 6 and connected at their lower ends by a cross-bar 16, upon which is pivotally secured the brake-spoon 17 by means of perforated ears 18, projecting from the brake, through which the cross-bar 16 passes.

The brake 17 is connected by a spiral spring 19 with the frame, the forward end of said spring being secured to a screw 20, projecting from the frame, while its rear end is attached to the cross-bar 16.

The lever 14 is provided with a forwardly-projecting arm 21, arranged at an angle to the lever and provided with an elongated slot 22. This arm 21 is connected, by means of a headed bolt 23 and nut 24, with the adjacent end of an arm 25, projecting from the clutch mechanism on the crank-axle, which will now be described.

A disk 26 is rigidly secured upon the hub 27 of the crank-arm 28, and on either side of said disk is secured a ring 29 by any suitable

means, said rings being concentrically arranged on the hub 27 with relation to the disk 26 and being of greater diameter than said disk to form an annular seat around the periphery of the disk for the clutch-ring 31. The disk 26 is recessed, preferably at diametrically opposite points 32, to form seats or sockets for transversely-arranged rollers 33. The recesses 32 are deeper at one end than at the other, so that when the rollers are at the deeper ends of the recesses the crank-arm may freely revolve without forcing the rollers into contact with the ring 31. A reverse movement of the crank-arm, however, will move the rollers into the shallower ends of the recesses and cause them to bind tightly against the inner face of the ring 31, thus moving the latter, and through the connection of the arm 25 with the slotted arm 21 of the lever 14 operating the brake.

To facilitate free movement of the rollers within their seats, one wall of each of the recesses 32 is longitudinally recessed to form a seat for a spiral spring 34, against the outer end of which the roller bears.

As shown in Fig. 8, the rear sprocket-wheel 35 of the machine is provided with a clutch mechanism similar to that on the crank-shaft above described, thereby adapting the rear wheel to be disengaged from the driving-chain for coasting purposes.

While the functions of the several parts of the invention will be clear to those skilled in the art from the above description, their operation may be summarized as follows:

Normally the spoon-brake hangs in the position shown in Fig. 1 in full lines—out of contact with the rear wheel. A slight backward movement or stoppage of the driving-chain operates to throw the rear wheel out of engagement with the driving-sprocket through the clutch mechanism carried thereby, thus permitting coasting without revolving the crank-shaft and pedals. The rear wheel of course revolves freely as long as the pedals are revolved in a forward direction; but the instant the movement of the crank-shaft is reversed the rollers move to the shallow ends of the slots in the disk, thus binding the clutch-ring tightly to the disk and causing said ring to turn with the disk. This depresses the arm on the ring, and through the connection of said arm with the arm projecting from the brake-lever 14 the brake is forced against the periphery of the rear wheel, the parts assuming the positions shown by dotted lines in Fig. 1.

Having thus described my invention, what I desire to claim and secure by Letters Patent is—

1. The combination with a cycle, of a pair of levers fulcrumed on the machine-frame in front of the rear wheel, a brake pivotally secured between said levers, an arm projecting from one of said levers and provided with an elongated slot, and a clutch device arranged on the crank-shaft of the machine and provided with a projecting arm secured to the arm which projects from one of the brake-levers, by a pivot-bolt passing through the said elongated slot.

2. The combination with a cycle, of a pair of levers fulcrumed at their lower ends by a cross-bar, an arm 21 projecting from one of said levers, and provided with an elongated slot, a brake pivotally secured upon said cross-bar, a clutch device arranged on the crank-shaft of the machine and provided with a projecting arm pivotally secured to the arm 21, and a spring secured at one end to the machine-frame, and at its other end to said cross-bar.

In testimony whereof I affix my signature in presence of two witnesses.

ALEXANDER P. MORROW.

Witnesses:

SAMUEL S. LANDON,

A. H. GLEASON.

126 *Decree, &c.*

Filed June 3, 1899.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW, Complainant,
vs.
THE ECLIPSE BICYCLE COMPANY, Defendant. } Equity. No. 19095.

This cause came on to be heard upon pleadings and evidence and the same being argued by counsel, and upon consideration by the court, it is — third day of June, A. D. 1899, adjudged, ordered and decreed that the complainant Willard M. Farrow, is entitled to receive from the defendant The Eclipse Bicycle Company, royalties under the terms, and in the manner expressed in the contract between the said complainant and the defendant, dated June 5th, 1897, upon all the devices manufactured by the said defendant company embodying the inventions mentioned in the applications for letters patent filed in the Patent Office by the complainant respectively on July 24th, 1896 and December 1, 1896, the serial numbers of said applications being as follows: to wit, 600,359 and 614,140.

And it is further adjudged, ordered and decreed that the complainant is entitled to receive from the defendant company royalties upon devices manufactured by the said defendant company under letters patent granted to Alexander P. Morrow dated the twentieth (20) day of September, 1899 being letters patent No. 611,073 and known as the Morrow brake and coaster for bicycles, upon the same terms and in the same manner expressed in the aforesaid
127 contract between the complainant, dated June 5th, 1897, Willard M. Farrow and the defendant The Eclipse Bicycle Company.

It is further adjudged, ordered and decreed that this cause be referred to the auditor to state the account between the parties in accordance with this decree and that the auditor shall take such testimony as may be necessary to state said account and said Eclipse Bicycle Company shall discover and produce before said auditor books papers and such evidence as may be in its possession that in any way pertains to said account.

By the court:

CHAS. C. COLE,
Asso. Justice.

128 *Decree, &c.*

Filed February 1, 1900.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW, Complainant,
vs.
THE ECLIPSE BICYCLE COMPANY, Defendant. } Equity. No. 19095.

This cause came on to be heard upon pleadings and evidence, and the same being reargued by counsel, and upon consideration by the court, it is, this 31st day of January, 1900, adjudged, ordered, and decreed that the complainant, Willard M. Farrow, is entitled to receive from the defendant, The Eclipse Bicycle Company, royalties under the terms and in the manner expressed in the contract between the said complainant and the defendant, dated June 5th, 1897, upon all the devices manufactured by said defendant company embodying the inventions mentioned in the applications for letters patent filed in the Patent Office by the complainant respectively on July 24th, 1896, and December 1st, 1896, the serial numbers of said applications being as follows, to wit, 600,359 and 614,140.

And it is further adjudged, ordered, and decreed that the complainant is entitled to receive from the defendant company royalties upon devices manufactured by said defendant company under letters patent granted to Alexander P. Marrow dated the 20th day of September, 1899, being letters patent numbered 611,073 and known as the Marrow brake and coaster for bicycles, upon the same terms and in the same manner expressed in the aforesaid contract between the complainant, Willard M. Farrow, and the defendant, The Eclipse Bicycle Company, dated June 5th, 1897.

It is further adjudged, ordered, and decreed that this cause be referred to the auditor to state the account between the parties in accordance with this decree, and that the auditor shall take such testimony as may be necessary to state said account, and said Eclipse Bicycle Company shall discover and produce before said auditor books, papers, and such evidence as may be in its possession that in any way pertains to said account.

CHAS. C. COLE,
Asso. Justice.

Order Allowing Appeal.

Filed February 8, 1900.

Court of Appeals of the District of Columbia, January Term, 1900.

No. 75, Original Docket.

ECLIPSE BICYCLE COMPANY, Petitioner,
vs.
WILLARD M. FARROW. } Equity. No. 19095.

On consideration of the petition of the Eclipse Bicycle Company for the allowance of an appeal from the decree entered by the supreme court of the District of Columbia on the 1st day of February, A. D. 1900, it is now here ordered by this court that said appeal be, and the same is hereby, allowed.

By the court:

R. H. ALVEY,
Chief Justice.

February 7, 1900.

A true copy.
Test:
[SEAL.] ROBERT WILLETT, *Clerk.*

129 *Mandate.*

Filed June 22, 1900.

UNITED STATES OF AMERICA, ss:

[SEAL.] The President of the United States of America to the honorable the justices of the supreme court of the District of Columbia, Greeting:

Whereas, lately in the supreme court of the District of Columbia, before you or some of you, in a cause between Willard M. Farrow, complainant, and The Eclipse Bicycle Company, defendant, equity No. 19,095, wherein the decree of the said supreme court entered in said cause on the 1st day of February, A. D. 1900, is in the following words, viz:

" *Decree, &c.*

Filed February 1, 1900.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW, Complainant,
vs.
THE ECLIPSE BICYCLE COMPANY, Defendant. } Equity. No. 19095.

This cause came on to be heard upon pleadings and evidence, and the same being re-argued by counsel, and upon consideration by the court, it is, this 31st day of January 1900, adjudged, ordered and decreed that the complainant, Willard M. Farrow is entitled to receive from the defendant, The Eclipse Bicycle Company, royalties under the terms and in the manner expressed in the contract between the said complainant and the defendant, dated June
130 5th, 1897, upon all the devices manufactured by said defendant company embodying the inventions mentioned in the applications for letters patent filed in the Patent Office by the complainant respectively on July 24th, 1896, and December 1st, 1896, the serial numbers of said applications being as follows, to wit, 600,359 and 614,140.

And it is further adjudged, ordered and decreed that the complainant is entitled to receive from the defendant company royalties upon devices manufactured by said defendant company under letters patent granted to Alexander P. Morrow dated the 20th day of September, 1899, being letters patent numbered 611,073, and known as the Marrow brake and coaster for bicycles upon the same terms and in the same manner expressed in the aforesaid contract between the complainant, Willard M. Farrow, and the defendant, The Eclipse Bicycle Company, dated June 5th, 1897.

It is further adjudged, ordered, and decreed that this cause be referred to the auditor to state the account between the parties in accordance with this decree, and that the auditor shall take such testimony as may be necessary to state said account, and said Eclipse Bicycle Company shall discover and produce before said auditor books, papers, and such evidence as may be in its possession that in any way pertains to said account.

CHAS. C. COLE,
Asso. Justice."

as by the inspection of the transcript of the record of the said supreme court, which was brought into the Court of Appeals of the District of Columbia by virtue of an appeal, agreeably to the act of Congress in such case made and provided, fully and at large
131 appears.

And whereas, in the present term of April, in the year of

our Lord one thousand nine hundred,—the said cause came on to be heard before the said Court of Appeals on the said transcript of record, and was argued by counsel:

On consideration whereof, it is now here ordered, adjudged and decreed by this court that the decree of the said supreme court in this cause be, and the same is hereby, affirmed with costs; and that the said complainant, Willard M. Farrow, recover against the said defendant, The Eclipse Bicycle Company, for his costs herein expended, and have execution therefor.

And it is further ordered, that this cause be, and the same is hereby, remanded to the said supreme court for the further proceedings in that decree directed.

JUNE 5, 1900.

You, therefore, are hereby commanded that such execution and further proceedings be had in said cause in conformity with the opinion and decree of this court as according to right and justice, and the laws of the United States ought to be had, the said appeal notwithstanding.

Witness, the Honorable Richard H. Alvey, Chief Justice of said Court of Appeals, the 22nd day of June, in the year of our Lord one thousand nine hundred.

ROBERT WILLETT,
Clerk of the Court of Appeals of the District of Columbia.

Costs of Complainant.

Clerk..... $
Printing record..... $

$

Paid by def't.

132 *Motion by Defendant for Leave to Amend Answer, &c.*

Filed October 11, 1900.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
THE ECLIPSE BICYCLE CO. } In Equity. No. 19095.

The defendant moves the court to give it leave to amend its answer in this case and to take additional testimony in support of its answer, and as ground for such action it avers:

1. That when it entered into the contract of June 5th, 1897, a copy

of which is Exhibit A to the original bill of complaint in this case, and during all the negotiations which preceded and led up to the execution of that contract, the sole inducement to the defendant's execution of said instrument was the understanding and belief on its part and that of its president, who conducted said negotiations and for it executed said contract, that the complainant Farrow was the original and first inventor of the combination in a bicycle of a coasting device with a back-pedaling brake device, and that this was well known to said Farrow during said negotiations, and at the time of the execution of said contract.

2. That several months prior to the beginning of said negotiations, it was well known to said Farrow and to J. M. Pollard, who for him as his attorney presented to the Patent Office his applications
133 referred to in the proceedings in this case and conducted the same as such attorney until the latter part of May, 1897, that his said applications, so far as they embraced broad claims for a coasting device in combination with a back-pedaling device, had been rejected, and that such rejection had been based among other things upon the patent of Stover and Hance, No. 418,142, issued December 24th, 1889; and that when said negotiations began, and while they were going on, and until they were concluded, both said Farrow and his said attorney Pollard, who for him participated in said negotiations and acted as his attorney in the preparation of said contract, knew that said Stover and Hance patent fully and completely anticipated such broad claims, and rendered it impossible for said Farrow to obtain a patent for anything except at the most a very limited specific invention.

3. That notwithstanding this knowledge on the part of the complainant and his said attorney, the complainant, during said negotiations, frequently and continuously informed the defendant's president, H. H. Fulton, and John D. Lasley, the local manager of the Eclipse Bicycle Company, and James L. Skidmore, its solicitor of patents, who with said president represented it in said negotiations and in the preparation of said contract, that the action of the Patent Office upon the application in question had rendered it certain that such broad claims would be allowed, and that by obtaining a patent therefor Farrow or his assignees would be able to control the bicycle trade in so far as the combination of a coasting device with
134 a back-pedaling brake device was concerned, and that both said Fulton and said Skidmore relied upon and were deceived by these representations; that at no time during the negotiations preliminary to the contract involved herein did Farrow or his attorney mention to H. H. Fulton that there was more than one application involved in the negotiations, and that the said Fulton conducted the negotiations wholly upon the belief that the only application or invention that he was buying was the combination of a coasting device with a chain-operated back-pedaling brake device, and the patent that might be based thereon.

4. That the plaintiff during said negotiations repeatedly and earnestly urged haste in the matter of the closing of the proposed

contract between him and the defendant, urging among other things his great need of money, and informing said Fulton that a certain person, whose name is unknown to the defendant but whom he pointed out to said Fulton, was ready to pay him (Farrow) ten thousand dollars for such invention; and that by this means said Farrow induced the defendant and its said patent solicitor, Skidmore, to use great haste in the investigation which was made by said Skidmore as to the state of the art involved in said applications at the time the applications were filed, and that by this means, and in consequence of the representations theretofore made to him by said Farrow and said Pollard as aforesaid, said Skidmore was induced to give and did give but a cursory examination to said patent of Stover and Hance, and in consequence overlooked the fact that although mainly a patent for a spring frame for bicycles it
135 did contain matter which anticipated all the features of the applications of said Farrow which induced the defendant to enter into said contract with him.

5. That prior to said negotiations, said Farrow had transferred to one William W. Cookson, by a written assignment dated December 1st, 1896, a one-tenth interest in his said inventions, which fact said Farrow, during said negotiations, concealed from the defendant and from said Skidmore, informing them during said negotiations, on the contrary, that he was the sole owner of said inventions, and that his title thereto was perfect, which representations the defendant believed and relied upon in entering into said contract.

6. That at or about the time said contract was entered into, said Pollard, in the presence and hearing of said Farrow, informed said Fulton that he (Pollard) did not wish to further prosecute said applications of said Farrow, and that thereupon it was agreed between said Pollard and said Farrow on the one hand, and said Fulton and said Skidmore, representing this defendant, on the other, that said Pollard should withdraw from the further prosecution of said application, and that said Skidmore should take his place as the attorney for said Farrow, the defendant agreeing to pay for the services so to be rendered by said Skidmore for said Farrow; and that this arrangement was carried into effect, said Skidmore thereafter acting in the matter as the attorney for said Farrow as well as attorney for the defendant.

136 7. That continuously from the date of the substitution of said Skidmore in the place of said Pollard as aforesaid, said Farrow conferred with and was advised by said Skidmore as to the steps taken and proposed to be taken in the prosecution of said Farrow's said applications; that when one of said applications was placed in interference with the applications of other inventors for patents on similar devices, said Farrow was fully advised by said Skidmore as to the facts in the case, and acquiesced in the conclusions reached by said Skidmore as to the inadvisability of contesting the priority of the opponents of said Farrow in said interferences; and that said Farrow subsequently, on or about the thirty-first day of July, 1897, himself for the first time brought to the

knowledge of this defendant the existence of said patent of Stover and Hance, and called its attention to the broad claims thereof hereinabove referred to.

8. That Alexander P. Morrow, who has been examined as a witness in this case, was the author of a large number of inventions for which he had made applications for patent prior to May, 1897; that many of these inventions related to bicycles, and at least one to a bicycle brake; that the invention embraced in the letters patent No. 611,073 to said Morrow, which is in evidence in this case, was conceived and perfected by said Morrow not only without any suggestion from this defendant or any of its managing officers, but entirely without their knowledge; that there was at no time any understanding, agreement or collusion of any kind between the defendant or
137 any of its officers and said Morrow looking to his applying for said patent for the purpose of enabling the defendant to evade or depart from its obligations under its said contract with said Farrow; that on the contrary, after said Morrow had disclosed to the defendant his said invention, and while his application for a patent therefor was pending, this defendant was striving earnestly and diligently, in every possible legitimate way, to obtain patents with broad claims upon said applications of said Farrow, not only in the United States but in Belgium, England, France, Austria and Germany, and subsequently obtained patents on such applications of said Farrow in Belgium, England, France and Austria; and that the defendant about the same time also sent to Europe an agent whose special duty it was to endeavor to exploit the Farrow invention, who was so successful in his enterprise that great profit would have resulted therefrom to the defendant and to said Farrow but for the discovery, subsequently made, that because of the prior patent of Stover and Hance, and the prior inventions of the opponents of said Farrow in said interference proceedings, said patents were worthless. And after the said invention of said Morrow had been disclosed to the defendant, and while the application for a patent therefor was being pressed, the defendant was with all diligence manufacturing bicycles with the Farrow back-pedaling chain brake attached thereto, and was largely advertising the same, and using every possible effort to put it upon the market; but it was found that in consequence of the rattling noise necessarily caused
138 by the operation of this particular device, and the adoption by other manufacturers of other devices accomplishing the same purpose without this objectionable feature, even if said Farrow had been the inventor of such device and had been entitled to obtain a patent therefor, it would have been impracticable to make any extensive sale of bicycles containing such device.

9. That even when the application for a patent on said invention of said Morrow was made, it was the belief of this defendant and its managing officers that the broad claim of said Farrow in his said application would be allowed, and that when allowed the patent issuing thereon would cover the Morrow device and all similar devices; and at that time the defendant fully expected that whether

it should manufacture its bicycles equipped with the particular device which said Farrow was supposed to have invented, or with the Morrow device, or with any other device by which a back-pedaling brake action would be combined with a coaster on a bicycle, said Farrow's supposed invention and expected and anticipated patent would cover the same, so that he would be entitled to his royalty under his said contract with the defendant; but when it was ascertained that the Stover and Hance patent was in existence, and when subsequently in the interference proceedings it appeared that said Farrow was not the original inventor even of the specific tire-brake described in his application, the defendant was advised and believed, and is now advised and believes, that its obligations under said contract to said Farrow were at an end.

139 10. That until within the last ten days the defendant and its managing officers understood and believed that the contract between it and said Farrow related only to his chain-operated tire-brake, and that this suit was in the nature of a suit against the defendant for infringing the patent for such device; and that from the beginning to the end of this litigation, as they are now advised, the case has been conducted by them under an honest but absolute misapprehension as to the nature of the claim made against them by said Farrow in this suit, and as to the evidence which was required to present their defense properly.

And in so far as this motion relates to a reopening of the testimony, it is based upon the following additional grounds:

11. That when the testimony of said Fulton and said Morrow and others was taken in this case at Elmira, N. Y., under a commission issuing out of this court, neither said Fulton nor said Morrow nor the local attorney of the company who appeared to represent it at the taking of said depositions had any knowledge as to the real subject-matter of the suit, or any opportunity, by the examination of correspondence or otherwise, to refresh their memories as to the matters concerning which said Fulton and said Morrow were examined.

12. That the depositions of James L. Skidmore, Edward G.

140 Curtis, Henry P. Doolittle and J. D. Lasley in this case were never signed by the respective deponents; that when the deposition of James L. Skidmore was presented to him for signature by the examiner, he examined the same and declined to sign it until certain material changes which he (Skidmore) pointed out should be made; that thereupon the examiner took the deposition away for the purpose of making such changes; that it was never again presented to said Skidmore, but that it and the depositions of the other witnesses above named were by mistake of the examiner filed without being signed, and, so far at least as said Skidmore was concerned, without having been approved by him.

13. That the defendant is now advised by its counsel, and avers the fact to be, that in addition to those patents cited by the Patent Office against Farrow's claims, there are patents issued long before the filing date of either of Farrow's applications that would defeat

any broad claim granted to Farrow upon any of the devices to which the contract in this case relates.

A. S. WORTHINGTON,
Solicitor for Defendant.

To Henry M. Earle, D. W. Baker, and John C. Gittings, Esqs., solicitors for complainant:

Please take notice that I shall call up the above motion
141 in equity court No. — at the opening of the court on Saturday, October 13th, 1900, or as soon thereafter as counsel can be heard; and that in support of the motion I shall refer to the pleadings and evidence and proceedings in this case, and shall further rely upon the affidavit of Harmon H. Fulton, the two affidavits of James L. Skidmore, and the affidavits of John D. Lasley, Alexander P. Morrow, Douglass S. Mackall, Leroy Tabor and F. Walter Brandenburg, and the exhibits appended to the affidavit of said Fulton, copies of all which affidavits and exhibits are herewith served upon you.

A. S. WORTHINGTON,
Solicitor for Defendant.

Service of a copy of the foregoing motion and of the affidavits and exhibits referred to in the foregoing notice is acknowledged this eleventh day of October, A. D. 1900.

JOHN C. GITTINGS,
Of Counsel for Plaintiff.

The motion in this cause is hereby referred to Justice Cole for hearing and determination.

JOB BARNARD, *Justice.*

October 12, 1900.

142 In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
THE ECLIPSE BICYCLE CO. } In Equity. No. 19095.

DISTRICT OF COLUMBIA, *ss:*

Harmon H. Fulton, being duly sworn, says:

I am a resident of the city of Elmira, in the State of New York, and during all the times hereinafter mentioned was the president of The Eclipse Bicycle Company, the defendant herein.

At some time about the middle of May, 1897, I came to Washington and went to the branch store of our company at Fourteenth and H streets, and there saw our manager, Mr. J. D. Lasley. He then informed me that he had learned of a new coaster and brake device for a bicycle, and asked me to go and see the inventor with him.

My visit to Washington was made on account of general business matters concerning the Washington branch of the Eclipse Bicycle Company, and was not made for the purpose or with the knowledge that this bicycle brake matter would then be brought up.

On the same day, I think, on which I arrived in Washington, Mr. Lasley went with me to the shop of Mr. Farrow, which was on the second floor, in a street and at a number which I do not now remember. We there saw Mr. Farrow. At the Eclipse
143 branch office I saw an Eclipse bicycle equipped with a Farrow tire brake and coaster. I rode the wheel, and thought that when perfected in its mechanical details it would be a good thing. At Mr. Farrow's shop we conversed with him in reference to his invention, and asked him a number of questions, as to when he had brought it out, whether he was the original inventor, and if in his opinion there was any thing like it anywhere in the country. He said he had been experimenting with it for several months, and that it was only recently that he had completed the brake; that he was the original inventor, and had never seen or heard of a similar device, and had no doubt he would get very broad patents.

Mr. Farrow had agreed with the manager of our branch store, Mr. Lasley, to furnish to him a certain number of these brakes to be fitted to Eclipse bicycles; and Mr. Lasley, from the sample that he had at the store, and which sample I had seen, had taken orders for a good many of these brakes. I think the number stated to me by Mr. Lasley was twenty to forty. I cannot remember now the number. Mr. Lasley stated that Farrow had promised from time to time to deliver these brakes to him, but that up to that time he had been unable to get any from him.

A general conversation then took place with reference to our making the brake on a royalty, which he expressed a willingness and a desire to have us do, and to which desire I gave my assent, providing satisfactory arrangements could be mutually made.

Upon the following day Mr. Lasley and I again called at Mr. Farrow's shop, and there reached practically a preliminary agreement to the effect that we were to pay Mr. Farrow certain speci-
144 fied royalties, the same as appear in the contract afterwards executed, and advance to him the amount also named in the contract.

While at the shop during this second visit, Mr. Farrow said to me that he had a party waiting to take up the manufacture of the brake with him who was willing to advance him ten thousand dollars, but that he would prefer to deal with us, as he thought we had better facilities for manufacturing and marketing the brake than one not engaged in the bicycle business could have. Mr. Farrow pointed to a man standing in the shop, and said: "That is the man." He was a young man, apparently about twenty-three or four years of age. Mr. Farrow did not give me his name, nor state anything further in connection with the matter.

Within the last five or six days for the first time has my attention been called to the following questions and answers, contained in the

deposition of Mr. Farrow on page thirty-four of the printed transcript of record in this case:

Q. In your talks with Mr. Fulton, did you say anything to him about the interest of any other person? A. I mentioned to him that there was another party interested with him and I brought the agreement down when he was in my shop and handed it to him.

Q. You mean the agreement between you and the other party? A. Yes, sir.

Q. He saw that? A. He saw that and had it in his hands.

145 As to these statements, I say they are false and without any foundation in fact. Mr. Farrow did not at any time inform me that anybody else had any interest in the brake to which our conversations referred, nor did he at any time show me any paper whatever relating to any matter. Never, at any time in any of the discussions with Mr. Farrow, on either of the two occasions at his shop, nor at the meeting at the store afterward, was there ever a word said concerning the interest of anyone else in the invention in question.

These were the only times I had ever seen Farrow at his shop; and upon the evening of the day of my second visit, or the evening of the following day, Mr. Farrow met me at our Washington branch store in company with his attorney, whom I understand to have been a Mr. Pollard, and also with our attorney, Mr. James L. Skidmore. Mr. Lasley, the manager of our agency, was in and out during the meeting.

At this meeting Mr. Farrow stated in the presence of Mr. Pollard, Mr. Skidmore, myself, and I think Mr. Lasley, that he was the sole inventor of the device; that he had never seen or heard of anything like it and that he had every reason to believe he would get very broad patents;

A discussion arose as to the matter of obtaining patents, the exact words of which I do not remember, but the substance of which was that Mr. Pollard said that he was not a regularly established solicitor of patents, but was employed in some department of the Government, and that he occasionally, during his leisure hours, would take out or try to take out patents when the device was of

146 simple design and easily carried through the Patent Office. He stated that in the case of Farrow he had had some trouble, and had taken the applications as far as he was able to do, and would like to have the matter taken off of his hands. I said to him that we would be willing to have our attorney, Mr. Skidmore, do the work if he would not feel hurt at our taking it off his hands, and turned to Mr. Farrow to know if he was willing to turn over the matter of the conduct of his applications to Mr. Skidmore, in the place of Mr. Pollard, providing we would pay the expenses of securing the patent. To this Mr. Farrow gave his assent, and said that he would be glad to have Mr. Skidmore act for him in the matter.

After this general conversation the subject was taken up in detail concerning the contract, the amount of royalty to be advanced, and the terms of the contract itself. I stated to Mr. Skidmore the sub-

stance of the preliminary contract made at Farrow's shop during my second visit, and to this Mr. Farrow made emphatic objections. He then demanded a much larger sum than he had agreed to take; and after considerable talk over the matter, Mr. Skidmore advised me to let the matter drop until we could either know more about Farrow's application, or until we were better satisfied as to the safety of advancing so large a sum as Farrow demanded that evening. Farrow then withdrew his excessive demands, and returned to the proposition of the day before, and accepted it exactly as it had been agreed upon.

The season was late for bringing out an invention of this kind; and as we had every reason to believe, from the statements
147 made by Farrow, that he was the original inventor of the device, and that there was quite a demand for the same, I was anxious to have the matter closed, so as to prepare the necessary patterns, tools, etc., for the marketing of the brake.

The bicycle season practically closes about the first of July; and I felt that if we could not get the brake on the market before that time, or in the summer and early fall, we would not have an opportunity of selling many wheels and getting the brake before our trade preparatory to the following season's business. From the first of July until the first of November there is but very little manufacturing of bicycles, except preliminary work, and such as would be done in preparation for the following season. Generally orders are taken for the following season for the jobbing trade from about the first of November to the first of January, and for the retail trade from about the first of January to the first of April or May. Deliveries for the jobbing trade generally begin about the time the orders are taken, or perhaps the first to the fifteenth of November. The active manufacturing season of the factory begins about the time that the jobbing trade want their wheels, about the first of November.

The foregoing statement embodies all that I recall of the conversations that occurred when I met Mr. Farrow. I never saw Mr. Farrow except on the three occasions mentioned. At no time did Mr. Farrow tell me that anyone else had any interest in his invention.

I never insisted that the conduct of the application should be taken from Mr. Pollard's hands, nor did I ever make any statement in substance that we would not be satisfied with Far-
148 row's attorney pushing the matter when we had an attorney of our own.

On the next day I left Washington, and soon thereafter reached Elmira.

Soon after my return to Elmira, I received a letter from Mr. Skidmore dated May 21st, 1897, the same being marked herein Exhibit 1. I also received, in the due course of mail, the letters from Mr. Skidmore dated, respectively, May 22nd, 1897, and May 24th, 1897, the same being respectively Exhibit 2 and Exhibit 3.

On the 4th of June, 1897, I wrote to Mr. Skidmore the letter dated that day, the same being Exhibit 4 herein. In this letter, Exhibit

4, reference is made to a "crank-fastener," and also to a "hub and spoke fastener device." The crank fastener was an apparatus for fastening the crank of a bicycle to the crank-axle, and was invented by our superintendent, Mr. Alexander P. Morrow. The hub and spoke fastener device was also an invention of the said Mr. Morrow.

On May 26th I wrote the letter Exhibit 5 to Mr. Skidmore, in reply to his of May 24th, Exhibit 3. On May 28th I wrote and mailed to Mr. Skidmore the letter Exhibit 6.

On May 29th I wrote to Mr. Skidmore the letter of that date, Exhibit 7 herein. The letter from Mr. Skidmore of the 27th, referred to in said Exhibit 7, has not been found after a careful search in our files.

On or about June 3rd, 1897, I received from Mr. Skidmore the letter Exhibit 8, the original of which is herein offered.

On or about June 5th, 1897, I received from Mr. Farrow, the complainant, the letter dated June 4th, 1897, Exhibit 9, I have
149 been unable to find any answer to this letter. Evidently I considered that it required no answer. The "side agreement" referred to in said letter, according to my recollection, is the clause proposed by us to be inserted by the letter Exhibit 6.

On June 5th, 1897, I wrote to Mr. Skidmore the letter Exhibit 10, dated that day, which is here produced.

I produce from the files of the Eclipse Bicycle Company a letter dated June 5th, 1897, from Mr. Skidmore to Mr. Morrow; and the same is marked Exhibit 11.

I produce from Mr. Skidmore's possession the letter dated June 7th, 1897, from Frank F. Weston to Mr. Skidmore; I know Mr. Weston's handwriting having seen him write often. The signature to said letter is his, and the same is marked Exhibit 12.

On June 8th, 1897, I wrote to Mr. Skidmore the letter dated that day, and marked Exhibit 13. I am unable to recall what was the clipping referred to in the postscript to the letter Exhibit 13.

Shortly after June 8th, 1897, I received two letters from Mr. Skidmore to me, dated that day, and marked respectively Exhibit 14 and Exhibit 15.

Shortly after June 9th, 1897, I received the letter from Mr. Skidmore dated that day, and marked Exhibit 16; and on June 11th I wrote to Mr. Skidmore the letter dated that day and marked Exhibit 17.

On June 14th, 1897, I wrote to Mr. Skidmore the letter dated that day and marked Exhibit 18; and shortly thereafter I received from Mr. Skidmore the letter dated June 14th, marked
150 Exhibit 19.

Shortly after June 17th, 1897, I received from Mr. Skidmore the letter dated that day, marked Exhibit 20.

I produce from the files of the Eclipse Bicycle Company the letter dated June 19th, 1897, from Mr. Skidmore to Mr. D. L. Whittier, the then treasurer of said bicycle company, said letter being marked Exhibit 21.

On June 21st, 1897, I wrote to Mr. Skidmore a letter found on

page 868 of my letter-book extending from September 14th, 1894, to September 15th, 1897, and is marked Exhibit 22.

The brake referred to in this Exhibit 22 is a brake invented by our Mr. Morrow, and concerning which I never knew anything until it was completed, and was in actual use upon an Eclipse bicycle. When so complete, Mr. Morrow showed it to me. The brake referred to in this letter is the same brake that was patented to Mr. Morrow in letters patent No. 611,073, dated September 20th, 1898, the application for which appears, according to said letters patent, to have been filed July 19, 1897.

Shortly after June 21st, 1897, I received from Mr. Skidmore the letter marked Exhibit 23 herein.

On June 24th, 1897, I wrote to Mr. Skidmore the letter dated that day, found in my letter-book, above mentioned, page 869, and is a true copy thereof. The same is marked Exhibit 24.

Shortly after June 25th, 1897, I received from Mr. Skidmore the letter dated that day, marked Exhibit 25.

151 On July 1st, 1897, I received from Mr. Skidmore the two telegrams marked, respectively, Exhibit 26 and Exhibit 27. These are the originals as received by me. It is the custom at our office in Elmira to have all telegrams telephoned from the Western Union office to our office, and at our office they are taken by a clerk, one of our stenographers, and written on the message blanks. These are the originals, in the handwriting of the persons in our office who received them.

Shortly after July 1st, 1897, I received from Mr. Skidmore the two letters marked, respectively, Exhibit 28 and Exhibit 29, both dated on said July 1st.

On July 1st I wrote to Mr. Skidmore the letter dated that day, found on page 887 of my letter-book above mentioned. This letter is marked Exhibit 30.

I produce from the files of the Eclipse Bicycle Company the letter from Mr. Farrow dated July 1st, 1897, marked herein Exhibit 31.

My best recollection at the present time is that I did not see this letter for sometime after its date.

Shortly after July 2nd I received the letter Exhibit 32 from Mr. Skidmore.

On July 15-h I wrote the letter found on page 907 of my letter-book, above mentioned, to Mr. Skidmore. The circular referred to in said letter is identified with a circular now produced, and entitled: "Sylph cycles, boltless," published by Rouse, Hazard & Co., of Peoria, Illinois. The subject-matter referred to in said letter is found on page 27 of said circular, under the heading: "The Phil-

152 lips coaster, sprocket and brake."

If this catalogue was (as would be indicated by the dates upon the front and back, and in the printed matter on the first interior page,) published for the season of 1897, it was, in accordance with the universal custom of the manufacturers of bicycles, published in 1896, in preparation for the coming season's trade, and was so published, without doubt, in November or December of 1896.

The said letter of July 15th is marked Exhibit 33, and the circular is marked Exhibit 34.

On page 27 of the circular is shown a device that is identical in mechanical principle and almost identical in construction with the chain-operated brake and coaster that I saw upon the Farrow wheel during my visit to Washington, above mentioned.

On the 19th of July, 1897, I wrote and mailed to Mr. Skidmore the letter found on page 911 of my letter-book. The same is marked Exhibit 35.

On July 20th, 1897, I wrote and mailed to Mr. Skidmore the letter found on page 912 of my letter-book, above mentioned. The same is marked Exhibit 36.

Shortly after July 30th, 1897, I received from Mr. Farrow, the complainant, the letter dated that day, which is marked herein Exhibit 37.

This letter from Farrow was answered by the letter dated August 5th, 1897, printed on page 38 of the transcript of record in
153 the Court of Appeals, District of Columbia, April term, 1900, No. 978.

On the 7th, 13th and 14th days of August, 1897, I wrote and mailed the letters to Mr. Skidmore found respectively on pages 922, 936 and 940 of my said letter-book. The same are marked respectively Exhibit 38, Exhibit 39, and Exhibit 40.

On September 11th, 1897, I wrote to Mr. Skidmore the letter dated that day, marked Exhibit 41.

On September 20th, 1897, I wrote to Mr. Skidmore the letter found on pages 9 and 10 of my second private letter-book, extending from September 16th, 1897, to December 30th, 1899. This letter is marked Exhibit 42.

On September 23rd, 1897, I wrote to Mr. Skidmore the letter found on page 15 of said letter-book. The same is marked Exhibit 43. The original of this letter, I am informed by Mr. Skidmore, he cannot find, after diligent search.

The letter from Mr. Skidmore dated September 22nd, 1897, and referred to in said Exhibit 43, has not been found after a careful search in the files of the Eclipse Bicycle Company.

On September 29th, 1897, I wrote to Mr. Skidmore the letter found on page 21 of said second letter-book, marked Exhibit 44.

On October 2nd, 1897, I wrote to Mr. Skidmore the letter found on page 32 of said second letter-book, and marked Exhibit 45.

On October 9th, 1897, I wrote to Mr. Skidmore the letter found on page 46 of the said second letter-book, and marked Exhibit 46.

154 The invention of Joseph Little, referred to in Exhibits 45 and 46, was, subsequent to the date of said letters, patented in the United States with broad claims for a brake device with a flexible or chain connection between the front and the rear hubs; this patent is No. 605,643 dated June 14, 1898; and subsequently the said Little commenced suit in the United States circuit court for the northern district of New York against the Eclipse Bicycle Company for infringement of said patent. Said suit is still pending.

The application for patent by this Mr. Little was in interference, as appears by the printed record, with one of the applications of Farrow, the interference number being 19,092. I am informed by Mr. Skidmore that Mr. Little succeeded in that interference because he (Little) had filed his application prior to the date alleged by Mr. Farrow as his (Farrow's) date of conception of the invention. The printed "transcript of record" above referred to does not contain the decision in this interference.

Shortly after October 11th, 1897, I received from Mr. Skidmore the letter dated that day, marked herein Exhibit 47.

On October 11th, 1897, I wrote to Mr. Skidmore the letter found on page 49 of said second letter-book. The original of this letter I am informed by Mr. Skidmore he cannot find among his papers. Said letter is marked Exhibit 48.

Shortly after November 16th, 1897, I received from Mr. Skidmore the letter dated that day, and marked herein "Exhibit 49." This was the first information, as far as I know, that anyone connected with the Eclipse Bicycle Company received concerning any
155 interference as between Farrow's application and the applications or patents of other parties.

Shortly after December 14th, 1897, I received from Mr. Skidmore the letter dated that day, together with the three attached filing-receipts for the preliminary statements of Willard M. Farrow. The said letter, with attached statements is marked Exhibit 50.

Shortly after January 14th, 1898, I received from Mr. Skidmore the letter dated that day, and marked herein Exhibit 51.

On January 17th, 1898, I wrote to Mr. Skidmore the letter dated that day, found on page 138 of said second letter-book. Said letter is marked Exhibit 52.

Shortly after January 19th, 1898, I received from Mr. Skidmore the letter dated that day. Said letter, consisting of two sheets, is marked Exhibit 53.

Relying on the advice contained in Mr. Skidmore's letters of May 24th and June 3rd, 1897, Exhibits 3 and 8, I executed the contract on June 5th, and with my letter Exhibit 10, returned it to Mr. Skidmore for delivery to Farrow with the consideration a check for one thousand dollars and three notes of five hundred dollars each, payable in three, six and nine months, respectively, on the understanding, received from Farrow and his attorney, that borad claims were undoubtedly obtainable upon the invention in question, which statement was corroborated by the said letters written me by Mr. Skidmore, and last above referred to.

The Farrow brake that I saw in Washington was the only
156 Farrow brake that I ever saw, and was identical with that shown in the drawings marked "page 230" and "page 231" in the printed record in this case. This brake has a tilting frame enclosing the upper side of the chain, and a dog hung in this frame so that the dog dropped into openings in the chain whenever the motion of the chain was reversed, and while the chain was running forward the chain passed through the frame, and its motion kept

the dog from engaging it. I never heard or knew anything about Farrow's spring band brake, shown and described in his application No. 600,359, until long after the contract was executed; and my attention was called to it by a letter from Mr. Skidmore, notifying me that a twenty dollar final fee was payable upon the application because it had been allowed. During all my conversations with Mr. Farrow and Mr. Farrow's attorney at the time of my visit to Washington above mentioned, the only brake to which any reference was made by any of us was the brake having the dog for engaging the chain, and is the same device to which Mr. Farrow referred to in his testimony, page 30 of the record, as follows:

"Now, the one I put the greatest faith on, the perfected one, the application was in December, and the other was in July; so that I had the idea of the coaster and brake and invented the idea way long before July; but you know the most perfect arrangement of it wasn't just complete at that time."

And is the same brake referred to in the testimony of Mr. Curtis, page 47 of the printed record, as follows:

157 "It is a brake that is pulled against the rear tire by means of a rod, which, with a dog, locks in the chain upon backpedaling; of course that is to be through what I have always called a loose sprocket on the rear wheel."

And until within the past few days, when so advised by my counsel, Mr. Worthington, I have had no other idea than that the contract of June 5th with Mr. Farrow referred solely and exclusively to the brake thus last described. I remember that Mr. Farrow did speak concerning a brake the operating mechanism of which engaged the front sprocket-wheel directly; but I told him then that I considered it of no value, and would have nothing to do with it.

Relying upon the advice contained in Mr. Skidmore's letter of January 19th, 1898, that it would not pay to fight the interferences, we did nothing further about prosecuting the application in which these interferences had occurred.

On February 15th, 1898, the Eclipse Bicycle Company received from Mr. Farrow a letter marked Exhibit 54 herein. To this letter the reply printed on pages 37 and 38 of the printed record herein was written by me to Mr. Farrow on February 15-h, 1898.

Shortly after the contract of June 5th was executed and the consideration delivered by us to Mr. Farrow, we commenced making preparations to manufacture the Farrow chain-operated tire-brake. It was some time before we were able to obtain fr-m Mr. Farrow a wheel provided with such a brake of a construction satisfactory to him and to us. In fact, it was some time before we were able to obtain any wheel from him having this brake upon it. We then,

158 after testing it, began to prepare for its manufacture by making patterns for such parts as could be made of brass, and by ordering dies so that drop-forgings could be made of certain other parts. These operations all took time, and it must have been July before we were able to finish one of these brakes. As above stated, the season for sales had practically closed about this time,

and only a few single orders would be received at this season of the year for any bicycle whatever. By the first of September 1897, sales had practically ceased, and we stopped manufacturing the Farrow brake at this time just as we stopped manufacturing for that season all wheels and bicycle devices of every character.

It was in September of 1897 that I first gained knowledge of the Stover and Hance patent, and inquired of Mr. Skidmore as to its effect upon us. My letter of September 20th, 1897, to Mr. Skidmore, contains inquiries on this point. Soon after that I came to Washington. At that time Mr. Skidmore gave me the same explanation of his overlooking those parts of the Stover and Hance patent which relate to the coaster and brake that he has given in his affidavit in this case. He told me then also that in his opinion the Stover and Hance patent broadly covered what we had supposed to be covered by Farrow's invention when we bought it—the combination of a coaster with a back-pedaling brake. I at once began negotiations through our Philadelphia attorney, Mr. A. B. Stoughton for the purchase of the same, and consummated that purchase November 11, 1897. The Stover and Hance patent showed us that the manufacture of the Farrow brake would be an infringe-
159 ment thereof, and also that the Stover and Hance patent anticipated and prevented our obtaining a patent upon the broad idea that we had wished to secure by the ownership of the Farrow invention, the expectation of which was the sole object of our entering into the contract with Farrow.

On the 16th of November, 1897, we received notice, by the letter Exhibit 49, which gave us first information as to interferences between Farrow's application and applications or patents of other parties; and on January 19th 1898, Mr. Skidmore's advice to us in his letter of that date (Exhibit 53) concerning the interferences put the final check to our procedure in the manufacture of the Farrow brake, and we gave up hopes of receiving any of the broad claims that we had hoped to receive upon the Farrow device, for the purpose of obtaining which broad claims, and thereby controlling to a considerable extent the manufacture of brakes and coasters, we had entered into the contract with Farrow.

The testimony of myself and of Mr. Morrow in this case was taken at Elmira. We had been subpœnaed to give our testimony, but I did not know what the subject matter of the suit was, except in the most general way. I supposed at that time that the suit was for infringement of a patent brought by Mr. Farrow; and knowing that he had obtained no patent, I could not see how such a suit could be brought. I left the whole proceedings and my own guidance in connection with them entirely to our attorneys; and our local attorney in Elmira, Mr. Frederick Collins, attended the taking of the depositions on our behalf, having informed me beforehand that he knew nothing of patent cases; but I assured him that there
160 was nothing in this infringement suit, and that it was wholly without foundation. In short, all the testimony that was taken at Elmira in this case was taken on my part and that of the

counsel of the defendant company under an entire misapprehension as to what was the nature of the case and what were the issues involved in it, and, because of that misapprehension, without any preparation whatever. Prior to the giving of my testimony I had not examined any of our files to learn what the correspondence was, nor have I at any time made a thorough examination of our letter-files until within the last ten days. I never read the opinion of the Court of Appeals in this case, and never knew what its meaning was until it was first explained to me by counsel who came into the case subsequently to the making of said opinion.

Prior to the drafting and execution of the contract, the whole tenor of my conversations with Farrow was that the Eclipse Company was to pay Farrow only for those things for which he should finally obtain a patent.

The Farrow device appeared to me at first to be suitable for an extensive marketing; but the rattling of the chain in the guide or frame through which it passes was an objectionable feature from which we heard many complaints. One of the most common annoyances in bicycles is the rattling of the chain against some part which it may touch. This suggests immediate need of repairs. This rattling in the Farrow chain-guide was an objectionable feature to many riders, and we became convinced, from the complaints that we heard, and from our general knowledge through a number of years of selling of Eclipse bicycles, many thousands of which the Eclipse Bicycle Company had sold, that this rattling of the chain-
161 guide could not be eradicated from the Farrow device, and that therefore the device was impractical as a merchantable article, however effective it might be as a mere mechanical construction. This did not lessen our interest in the Farrow applications then pending because our main purpose in that regard was to get the broad claims covering all forms of coasting devices when combined with any form of back-pedaling brake; but when we subsequently found that Farrow had nothing patentable except very specific devices which would render unmarketable bicycles upon which they should be placed, there seemed to me to be no reason for doing anything further under the contract with Farrow.

As suggested by Exhibit 30, we did send a man to Europe in August of 1897 to arrange for the sale, by the establishment of agencies and otherwise, of Eclipse wheels equipped with Farrow brakes; and he obtained orders for a number, probably 20 in number, before November 1st, 1897. Our agents about 300 in number in this country, had also been requested to take orders for said Farrow wheels, and did take orders prior to November 1st, 1897, for, 150 to possibly 200 of them. The necessity for producing a noiseless coaster and brake was what attracted my particular attention to the invention of Mr. Morrow when he showed it to me in its completed form, as above stated. We made strenuous efforts, by advertising in all the prominent bicycle papers, and by directions to our agents whom we sent abroad, to sell the Farrow brakes; but we

succeeded in obtaining orders for possibly 150 to 200. Of
162 the number ordered, sixty-eight in all were *with* delivered.

These efforts to introduce Eclipse wheels fitted with the Farrow brake continued long after Morrow had invented his brake, and while the effort to obtain a patent upon it was being made in the Patent Office, all of which will more fully appear from the correspondence which is annexed to this affidavit. It was my expectation during this period that we would get the broad claim on the Farrow application; that it would cover the Morrow device as well as any other device of a similar character; that instead of manufacturing a particular kind of tire-brake which was set forth in the Farrow application, we would manufacture the Morrow or some other more improved brake, which, however, would be covered by the broad claim in question, and that thereupon we would pay the stipulated royalty to Mr. Farrow, and would also pay Mr. Morrow an additional royalty for his improvement.

To *ym* knowledge, Mr. Morrow had for many years prior to April, 1897, been an inventor of mechanical devices of various kinds. Those inventions of his with which I was best acquainted were inventions relating to bicycles, including saddles, hubs, spoke-fasteners, crank-fasteners.

Some of these had been patented with my assistance, and some without it. Mr. Morrow, as superintendent of our factory, was constantly engaged in making improvements in the construction of the Eclipse bicycle, made by the defendant, and had made many such improvements prior to April, 1897.

HARMON H. FULTON.

Subscribed & sworn to before me this 10th day of October, A. D. 1900.

LUCAS P. LOVING,
[SEAL.] *Notary Public, D. C.*

163 (EXHIBIT 1.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *May 21st*, 1897.

Mr. H. H. Fulton, Elmira, New York.

DEAR SIR: Enclosed herewith you will please find a copy of the letter mailed by me, direct to Mr. John Bindley, Pittsburg, Pa., in accordance with your request. If you desire me to furnish any further information to Mr. Bindley, kindly communicate the substance of such information to me, and I will take pleasure in complying with your request at once.

Concerning the bicycle coasting and braking devices invented by Mr. Farrow, I beg to inform you that I did not receive the application papers from Mr. Farrow's attorney (Mr. Pollard) until last even-

ing, and they are in such form as to require careful investigation. Further I have been busy to-day in making an investigation among the Patent Office records, with the view of deciding as to their patentability, and general validity, over and above the state of the art disclosed by patents already granted bearing upon the subject, and have procured, as the result of my search, a number of patents which I will read to-night, in order that I may be thoroughly posted before the contract is signed. If, after covering the ground
164 quite fully in the premises, I shall decide to make favorable report, I will have Mr. Farrow sign the contract to-morrow afternoon, when the same will at once be forwarded to you for your signature, as president of the company; therefore you may expect to receive final report, etc. concerning the contract on Monday morning.

Very truly yours, JAS. L. SKIDMORE.

165 Offices of James L. Skidmore, Atlantic building.

WASHINGTON, D. C., *May* 21*st*, 1897.

Mr. John Bindley, care Bindley Hardware Co., Pittsburg, Pa.

DEAR SIR: I beg to inform you that the "Eclipse Switch and Signal Co.," of Elmira, N. Y., have procured U. S. letters patent of considerable breadth and scope, bearing upon switches, switch stands, and electrical and mechanical devices for operating railway switches and railway signals. In addition to the patents already granted, a series of applications are now pending, bearing upon the aforesaid subject matter, and a number of claims of importance have already been granted in each case, and it is expected that additional claims will be procured at an early date. It is my opinion that the aforesaid company is now in possession of patents and inventions of great importance, relative to railway switches, signals, etc.

Additional applications of material importance, bearing upon the subject matter in question, are about to be protected, and it is believed valid patents will be secured thereon.

If you should desire further information concerning the patents and inventions above referred to, I will be pleased to communicate the same upon the receipt of further instructions from Mr. H. H. Fulton, president of the Eclipse Switch and Signal Company.

Very respectfully yours, ——— ———.

166 (EXHIBIT 2.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *May* 22, 1897.

Mr. H. H. Fulton, Elmira, N. Y.

DEAR SIR: Mr. Farrow called to this evening, read over the contract and asked for time to submit it to his attorney before finally

deciding as to whether or not, he will be willing to sign the same. I, therefore, gave him a copy, which he agreed to return Monday morning. As soon as he makes up his mind in the premises I will forward the instrument for your signature, which will probably be no later than Monday afternoon.

Very truly yours, JAS. L. SKIDMORE.

167 (EXHIBIT 3.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *May 24th*, 1897.

Mr. H. H. Fulton, Elmira, N. Y.

DEAR SIR: I beg to inform you that I have made a careful investigation among the Patent Office records, with the view of ascertaining the probability of securing claims of considerable breadth and scope in the matter of the pending application of Willard M. Farrow, and I have to report that I am of the opinion that the desired protection will be secured in the premises.

Mr. Farrow agrees to sign the enclosed instrument, and is ready to do so immediately upon the receipt of the amount of money and collateral referred to by said instrument.

If you will forward check and notes, I will see that Mr. Farrow signs said instrument and that the matter is properly attended to. If desired, you can of course forward the amount involved direct to your representative at 14th and H, and I will be present when he is ready to settle with Mr. Farrow.

Kindly sign this instrument as president for "Eclipse Bicycle Company," that is, if you are willing to agree to the stipulations therein set forth. Please have witnesses to your signature.

Awaiting your reply, together with the return of said instrument, I am,

Very truly yours, JAS. L. SKIDMORE.

168 (EXHIBIT 4.)

Eclipse Bicycle Co.

ELMIRA, N. Y., *June* 4, 1897.

Jas. L. Skidmore, Esq., Atlantic building, Washington, D. C.

DEAR SIR: I have yours of the 2nd, referring to Mr. Jenkins' visit, and much obliged for the attention you gave him, and we are pleased to know that he was satisfied with the condition our patents are in. We want to get off two or three more claims this week, which we hope you will push through.

In reference to the crank fastener, we think it is going to be a

good thing, and hope you will find the way clear for a good, broad patent. The combination, as far as we know, is entirely new, and is going to work splendidly, therefore, we hope to get claims that will protect us thoroughly. Mr. Lasley telegraphs us that you recommend that we pay Farrow one thousand dollars and enter into a side contract. We have not yet received his letter, but infer from this that you have found the road clear for broad claims, therefore, we will go ahead and push the business, and will forward the check to you as soon as we get Lasley's letter, to know just what the amount will be and what the conditions are.

In reference to the hub and spoke fastener device for foreign countries, will say that I understood that Mr. Morrow and Mr. Weston were getting out these patents. I did not know that
169 the U. S. letters patent were ready to issue. I enclose check for $20.00, for the final fee in this country, which I suppose is the amount required. Please have it issued in the name of Mr. Morrow and myself.

Yours truly, H. H. FULTON.

Please send copy of letters patent for Lenox saddle, patented June 16th, '96.

170 (EXHIBIT 5.)

Eclipse Bicycle Co.

ELMIRA, N. Y., *May* 26, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: Enclosed please find a letter from John Bindley, and copy of my reply to the same. Mr. Jenkins is probably a representative attorney of Mr. Bindley's, but whether or not, please give to him all the information you can, and take special pains to point out the new and valuable features of all of our various patents. Now I might say to you, confidentially, that Mr. Bindley and one or two of his associates will probably take about one-half of our stock in the switch & signal business, and we are anxious to have them satisfied on all points relating to patents, and trust you will take special pains in pointing out the valuable features of our most valuable and important claims.

Your letter in reference to the brake received, and I am glad to know that you find the road clear for good substantial claims. We hope to receive a wheel to-morrow fitted with brake, and in the mean time will try and get off to you the contract, with the necessary papers. If I do not get it off to-morrow, will try and send it the day after.

Yours very truly, H. H. FULTON.

171 (EXHIBIT 6.)

Eclipse Bicycle Co.

ELMIRA, N. Y., *May* 28, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: In reference to the enclosed contract, will say that we have signed the paper, but would like to have a supplementary agreement in reference to the foreign patents, reading about as follows:—

"That the said Farrow hereby agrees that when applications for letters patent in foreign countries [will have been]* made, that he will immediately assign the same over to the said parties of the second part, so that they [will]* have full authority to dispose of said patents at such price as they may deem best, and if so sold or disposed of, one-fourth of the net proceeds is to be delivered and paid over to said Farrow. Should the parties of the second part not make proper effort to dispose of said patents within a reasonable time, and if such [will]* not [have been]* sold within two years [of]* A the date A [hereto, then]* the said parties of the second part (hereby) covenant and agree to surrender the same to said Farrow, without further cost to him."

ECLIPSE BICYCLE CO.
H. H. FULTON, *President.*

172 (EXHIBIT 7.)

Eclipse Bicycle Co.

ELMIRA, N. Y., *May* 29, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: We have yours of the 27th, and in reply will say that if after the investigation you have made you are of the opinion that we can get a good, broad claim on the Farrow invention, then we would suggest that you prepare new drawings and everything else, but if possible let it go in the Patent Office to take the place of the application that is now in, so as to get the advantage of the time that we ought to have, and I presume this can be done. We would have returned the papers signed, with the check and collateral had it not been for the delay caused by Mr. Farrow not sending the wheel here when promised. We have been promised a wheel

[* Words enclosed in brackets erased in copy.]

every day this week, and up to the present time have not received it. I want to show the wheel to my associates, just as we talked about when in Washington, and if the way is clear for a good patent, I see no reason why we cannot get the check to Mr. Farrow by next Tuesday, providing the wheel comes in so as to give us a chance to try the brake. If he comes in you are at liberty to read this letter to him or tell him the cause of the delay. I find some opposition to the brake, and am told that there is another device used similar to it, and it is going to take some hard work to get it on the market, but I have faith in it, and if we can get it well protected in the Patent Office, we will have a good deal of en-
173 couragement to crowd it right from the start. I am anxious to get foreign applications in without delay, providing we take hold of it, and as soon as applications are in I will try and go to foreign countries in July and dispose of the patents. I wish you would take the matter up and if you think the claims ought to be re-written, and I am of opinion that they should, and that new drawings ought to be made, then go ahead and get them in shape, but I don't understand it will require three separate applications. Mr. Farrow had some idea by which he could get around the present method, but I do not know whether it is practical or not, and if not practicable, I would not think it worth while to spend the money for the patents. See what you think about it and advise me.

Yours truly, H. H. FULTON.

174 (EXHIBIT 8.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *June* 3, 1897.

Mr. H. H. Fulton, Elmira, N. Y.

DEAR SIR: After a careful search and consideration of the circumstances involved relative to the deal with Mr. Farrow, I am unable to see, at present, any reason why the contract made should not be lived up to and the deal finally consummated. In view of the request made by you through your local manager I have added the clause relating to foreign patents and instead of making a side or additional agreement I have incorporated all that is necessary in the one instrument. If we should find in the further prosecution of Mr. Farrow's applications that another party has applied for patents, and the office should institute proceedings with the view of finding out the real inventor, we can, provided we find that Farrow is not the original and first inventor delay the contest for at least 18 months or two years, with very little expense, thus giving your company plenty of time to reap the benefits of the inventions and to repay them the monies invested. However, I have no reason to think Mr. Farrow is not the real inventor, but on the contrary, I have reason to believe he is the real inventor and that if a contest is de-

clared by the Patent Office, that he (Mr. Farrow) will be successful.

175 In conclusion, I beg to say that if you deem the invention a valuable one to your interests, I am of the opinion that you will be safe in winding up the deal, at once.

If conveniently possible, sign the enclosed agreement and forward same by return mail.

Very truly yours, JAS. L. SKIDMORE.

176 (EXHIBIT No. 9.)

Office of Farrow Arms Company,

WASHINGTON, D. C., *June* 4, 1897,
Friday morning, 8:30 a. m.

H. H. Fulton, Esq., president Eclipse Bicycle Co., Elmira, N. Y.

DEAR SIR: Yesterday afternoon I met Mr. Lasley & Mr. Skidmore, and the result of our meeting was to go ahead with the contract with the additional clause added that you sent down, and a side agreement which Mr. Skidmore was to send you last night, upon the assurance of the two gentlemen that it would be satisfactory and settled on Saturday next I came immediately to the shop to send the patterns & castings you desired. I found the core boxes and some of the patterns were yet at the foundry and could not get them until this morning, this will explain the delay in shipment.

I would like to mention that since you were here I have devised a better way to hang the shoe part of the brake. It is very simple, and will not allow the hanger to rattle, also have devised for the up and down adjustment of the lever that the chain runs through, without the addition of any screw, or cutting of threads. I am of opinion it would be a good plan for me to come up there for a week, it might be to advantage, the experience I have so far had would be of advantage in starting the thing right in the first effort to manufacture.

Hope to have everything satisfactory Saturday, I remain,

V'y truly yours, W. MILTON FARROW.

177 (EXHIBIT No. 10.)

Eclipse Bicycle Co.

ELMIRA, N. Y., *June* 5, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: We have yours of the 3rd, with the contract, which we have signed and herewith return, accompanied by check for one thousand dollars and the three notes, according to contract. We are

relying a good deal on your judgment in the matter of securing good, broad claims, for there is nothing in the brake that is new except the method of clutching the chain and connecting this clutch by a rod with the brake shoe. Now if you can get this broadly covered we will be all right. The clutch that is screwed on to the hub is such an one as we used ten years ago and is not new in any sense.

Applications should be put in at once for patents in the United Kingdom, Germany, Holland, France and possibly Austria. We had the lamp patented in these countries and the whole thing cost us only about $150. We do not know what your claim will be, but we are going to commence to advertise this brake at once and do not want any publication made of it over there before we get our applications in, and we have wondered whether you can have the papers prepared and get them off by the middle of next week. Our object is to get good, broad claims and then go over there next month and sell out the patents. We have got to do lots of hustling to get things in shape to do this and may have to wait until August.

Please let us hear from you in the matter. We suppose
178 you will get Mr. Farrow to sign up the enclosed contract and then put it on record at the Patent Office at Washington.

Yours truly,

ECLIPSE BICYCLE CO.
H. H. FULTON, *President.*

Would it not be a good idea to hold the notes till you have secured the assignment of foreign applications? Or, can you not get an assignment *at once?*

179 (EXHIBIT No. 11.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *June 5th*, 1897.

Mr. Alexander P. Morrow, Elmira, N. Y.

DEAR SIR: I received this afternoon a communication from Mr. Fulton, enclosing a check for $20.00, as payment of final Government fee relating to your hub and spoke fastening device, with the request that I have the patent issue to yourself and Mr. Fulton. I beg to say that if this U. S. patent is issued at once, you will be debarred from procuring foreign patents on the device.

You will no doubt remember that some time ago both you and Mr. Weston informed me to go ahead and prepare papers for England and Canada; that you signed power of attorney for England, after which I prepared the necessary drawings and papers for an English application, and that I also prepared and forwarded to you for signature, some time ago. the Canadian application papers, which you have not as yet returned. Now, before paying the final Government fee I desire to know what you, Mr. Weston, or Mr. Fulton intend to do concerning said English and Canadian applications, which

papers, as I said before, have all been prepared and are ready to be forwarded as soon as you return the Canadian papers properly signed. As you no doubt well know, the question relative to foreign applications has been held in abeyance awaiting Mr. Fulton's
180 final determination in the premises. Mr. Weston, I understand, having decided to have Mr. Fulton take hold of these foreign applications.

Trusting you will answer the above in full, within the next two or three days, I am,

Very truly yours, JAS. L. SKIDMORE.

P. S.—In Mr. Fulton's favor received to day he says: "I understood that Mr. Morrow and Mr. Weston were getting out these foreign patents."

Yours, &c., J. L. S.

181 (EXHIBIT No. 12.)

Eclipse Bicycle Co.

ELMIRA, N. Y., *June* 7, 1897.

J. L. Skidmore, Esq., Atlantic building, Washington, D. C.

DEAR SIR: Your communication to Mr. Morrow has been turned over to me for attention. In talking over the matter with Mr. Fulton this morning, he has decided that he does not care to go in on the foreign patents for the Morrow hub. Mr. Whittier, however, feels quite differently and has decided to join me in taking out these patents. Now, therefore, I wish you would proceed at once to take out the English patents and if you will let us know by return mail what amount of money it is necessary to send you, we will attend to the matter at once. In relation to the Canadian patents will say that we do not feel that we want to take them out just at present but we would like to know if we cannot protect our invention in that country without having to take out the patent for some months to come. We are very anxious to take out the French and German patents and would like to have you write us at once telling us what will be the expense of both these patents and in what installments that can be paid.

Trusting to hear from you at once in relation to this matter, as I wish to push it as rapidly as possible, and with kind regards, I am,

Yours very truly, FRANK F. WESTON.

182 (EXHIBIT No. 13.)

Eclipse Bicycle Co.

ELMIRA, N. Y., *June* 8, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: Can you get the application papers referring to the brake ready to send to foreign countries by next Saturday's steamer?

We are anxious to get the brake onto the market right away, and I want if possible to leave in July to sell the foreign patents. After the application has been filed in each country, will I have any trouble in then selling the patents, in absence of the papers, or in view of the fact that the patents will not have been issued? How long does it take to get letters patent in those countries? Please let me hear from you promptly, and if possible get the papers ready so as to send them out by next Saturday's steamer.

Yours truly, H. H. FULTON.

P. S.—Enclosed please find a clipping from a newspaper in reference to a brake. I wish you would be kind enough to see whether it is anything like the Farrow. See if there is anything in it that will prevent us from getting a broad claim on the Farrow. I judge from the description that we are all right.

183 (EXHIBIT No. 14.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *June 8th*, 1897.

Mr. H. H. Fulton, Elmira, New York.

DEAR SIR: Your favor, enclosing check and three notes made out and payable to Mr. Farrow, received today, and the contents of your said favor carefully noted. Since the receipt of your favor, and after an interview with Mr. Lasley, I concluded to hold off payment of the check and notes until I can examine the Patent Office publication which issues tomorrow, June 8, in order to ascertain, whether or not, a certain conflicting patent, which I have in view, will be mentioned in said publication, and to finally clear up search relating to title.

Will forward further and probably final report tomorrow afternoon.

Very truly yours, JAS. L. SKIDMORE.

184 (EXHIBIT No. 15.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *June 8th*, 1897.

Mr. H. H. Fulton, Elmira, N. Y.

DEAR SIR: Having failed to find any patent on Mr. Farrow's invention, now in question, and the Patent Office examiner in charge of this class of inventions having informed me this morning, that no patent had, as yet, been granted for such invention, and also finding Mr. Farrow's title perfectly clear in the premises, I have had

Mr. Farrow sign the agreement before two witnesses, and turned over to the said Mr. Farrow in question, the $1,000 check received from you, together with notes for $500 each, in accordance with your recent request.

The agreement will now be officially recorded in the Patent Office and returned to you, as soon as possible.

Mr. Farrow having furnished me today with powers of attorney relative to each of his inventions, I will, at once, proceed with the preparation of the necessary application papers, drawings, etc., and do all in my power to facilitate the early and successful prosecution of the same.

Mr. Farrow informs me that he will forward by mail this afternoon, the sketches desired by you, relative to the practical introduction of the inventions.

Very truly yours, JAS. L. SKIDMORE.

185 (EXHIBIT No. 16.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *June 9th*, 1897.

Mr. H. H. Fulton, Elmira, N. Y.

DEAR SIR: Replying to your favor received today, I beg to inform you that it will be impossible to get application papers relating to the Farrow brake, ready to send to foreign countries, by next Saturday's steamer. I appreciate your anxiety to get the brake on the market right away, but as I only managed last evening to procure powers of attorney in these cases from Mr. Farrow, and the Patent Office having required a division of the cases, and new specifications and drawings to be prepared, it will be impossible to have drawings made both for the U. S. and the foreign cases in less than ten days or two weeks. The specifications and claims relative to the foreign countries, excepting England, will all have to be translated into the language of the various countries before leaving this city. I will endeavor to furnish you with a copy of the specification and claims, and a copy of the drawings of the English application, for use while abroad. If you can get parties abroad interested in the invention, I see no reason why you cannot effect a sale or deal of some kind before the patents shall have been issued. There is no set time within which to secure letters patent in those foreign countries. It usually takes from two to six or seven months.

186 I beg to suggest that there being no patent law in Holland, that you include Belgium in place of Holland, this latter country being adjacent to France and more important, it is believed, in this line of inventions than Holland.

I have considered the patented brake granted to M. E. Davis, No. 582,984, referred to by the enclosed clipping, and have to say that it has no bearing whatever upon the Farrow invention.

Please wire or write me, at once, as to whether or not I shall substitute Belgium for Holland.

Awaiting your reply, I am

Very truly yours, JAS. L. SKIDMORE.

187 (EXHIBIT No. 17.)

Eclipse Bicycle Co.

ELMIRA, N. Y., *June* 11, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: We have yours of the 9th, and in reply will say that we do not want to be at the expense of two or three sets of patents for foreign countries, but simply one patent embodying the most important claim. It was a mistake of mine in mentioning Holland instead of Belgium. You are right—Belgium is the country we are after. Is there no way you can hurry the case up in less than ten days or two weeks? After the applications are in, would it be advisable for me to try and go abroad to dispose of the patents before they are issued? Would it not be a difficult matter to do? How long would it take to get the patents? Crowd them every way you can, and if you can possibly get the applications, especially to England, before, I wish you would do so, as I am afraid of their trying to forestall us.

Yours truly, H. H. FULTON.

188 (EXHIBIT No. 18.)

Eclipse Bicycle Co.

ELMIRA, N. Y., *June* 14, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: I have yours of the 12th, and in reply will say that I suppose the claims to foreign patents will be embodied in one application. We don't want to have the expense of two separate patents, and I don't believe it will be necessary. I wish you would send me a copy of the claims as you now have them for this country and let me know when the case will be taken up again. I would like to have this case crowded through, because there will be any number of fellows trying to get around the patent if possible.

Very truly, H. H. FULTON.

189 (Ex. No. 19.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *June 14th*, 1897.

Mr. H. H. Fulton, Elmira, N. Y.

DEAR SIR: I beg to inform you that I am progressing as rapidly as possible with foreign patents on the "Farrow brake and coasting device," and expect to have applications perfected and forwarded to England, Germany, France, Austria and Belgium, the latter part of this week. Owing to the very bad condition of the Farrow cases, I found it absolutely necessary to have three sheets of drawings made in order to comply with the requirements of the U. S. Patent Office examiner, and as the aforesaid foreign countries require drawings in duplicate, you will at once see that it will be necessary for me to have fifteen additional sheets made, there being five countries involved, in addition to the U. S.

I have noted your favor concerning the cost of the lamp patented in these countries, and have to say that said matter was a very simple one, having only one sheet of drawing and the short specification, therefore, the cost must have been necessarily much less, as in this case the actual cost for the necessary drawings and translations of the specifications and claims in four of the countries will almost, in itself, involve the amount referred to in your said favor.

The cost, including all expenses, Government fees, etc., relating to the five foreign countries, in this Farrow matter, will be
190 $350.00, which is, from $65 to $100 less than my usual charges for these countries considering the amount of work involved, and necessary expenses.

In order to avoid any delay in the premises, kindly forward by return mail, or at least within a day or two, $250.00 in advance, to cover translations, Government fees, and correspondent's fees, which fees of course, must be paid for in advance. The remaining $100.00 should follow within thirty or sixty days.

Awaiting your reply, together with the amount herein referred to, I am

Very truly yours, JAS. L. SKIDMORE.

191 (EXHIBIT No. 20.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *June 17th*, 1897.

Mr. H. H. Fulton, Elmira, N. Y.

DEAR SIR: Concerning the foreign patents, relative to Mr. Farrow's invention, I beg to say that the claims will be embodied in

one application, but in order to cover the main and important invention, and certain modifications of this important invention, it has been necessary to utilize three (3) sheets of drawings, which have been prepared and the necessary drawings for all of the countries will be finished tomorrow afternoon, so that upon the receipt of check to cover Government fees, etc., referred to in my favor several days ago, the papers, drawings, etc., will be ready to be forwarded to each of the countries in question.

In accordance with your request, I have enclosed herewith a copy of the claims as I now have them prepared for filing in this country as well as the five foreign countries. The examiner in charge of this class of inventions is at present more than two months behind in his work, and as the Patent Office rules provide for taking up all cases in their regular order, it is not likely that we can procure an official action in this matter in less than eight or ten weeks. However, I will use all possible diligence with the view of pushing the case to a successful issue. Regardless of further action on
192 the merits of the case in this country, you can go ahead and dispose of the invention in the foreign countries, provided, of course, you are the first to file cases abroad and hence the first to obtain foreign patents.

Very truly yours, JAS. L. SKIDMORE.

193 (EXHIBIT No. 21.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *June 19th*, 1897.

Mr. D. L. Whittier, treas., Elmira, N. Y.

DEAR SIR: Your recent favor, together with check for $250.00, as advanced payment for part fees, etc., in regard to the Farrow brake applications in five foreign countries, is received O. K., the receipt whereof is hereby acknowledged. Balance due, $100.00.

Please accept thanks.

Very truly yours, JAS. L. SKIDMORE.

194 (EXHIBIT No. 22.)

JUNE 21, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: I have yours of the 17th in reference to the foreign patents, and will say that we took out the foreign patents on the lamp in the same countries that you are taking out patents for on the brake, and which patents cost us over one hundred dollars less than you have charged on the brake, and we think the drawings for the lamp were just about as difficult, if not more so, than the drawings for the brake.

Now we have another brake that our Mr. Morrow has invented, that we want patented at once in the same countries, and we hope you will be able to put the price down to at least $200, or $250. It is a very simple device and is operated so far as the coasting is concerned, just as we operate the Farrow device, but the brake is altogether different, being operated by a device that is fastened to the left side of the crank shaft, and when one desires to coast he can do so just as in the case of the Farrow, and when they desire to put on the brake, backward movement is made just the same as in the Farrow, but entirely independent of the chain. On the crank shaft, at the left side, is a clutch similar to the clutch that is on the hub of the wheel, and the question now is, can we get a strong patent on the two clutches, the one on the hub, and the one on the crank shaft, operating so as to enable the rider to coast, and also if desired to operate the brake. The clutch is an old device and
195 is not patentable, and now can we take these two old clutches, put one on the hub and the other on the crank shaft, and get a broad claim that would prevent anyone from operating the brake where two clutches were used on the hub and crank shaft.

You may not be able to answer this until you see the device, but there is nothing new about it except in the combination.

Yours truly, H. H. FULTON.

196 (EXHIBIT No. 23.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *June 21st*, 1897.

Mr. H. H. Fulton, Elmira, N. Y.

DEAR SIR: You will please find, herewith enclosed, powers of attorney given me by Mr. W. M. Farrow, relative to two of his pending applications, which are now owned by your company. As your company are the assignees of these cases, the office requires the signature of your company, as concurring with Mr. Farrow in connection with the enclosed powers of attorney.

Please sign each of the two papers as indicated in pencil, and return the same to me at the earliest possible moment, and oblige

Very truly yours, JAS. L. SKIDMORE.

197 (EXHIBIT No. 24.)

JUNE 24, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: I am in receipt of yours of the 21st, and in reply will say that I think Mr. Morrow wrote to you yesterday in reference to his new patent brake. If not, he will write to you today, and ship a bicycle to you with the new invention. We want this broadly

patented in the same countries in which you patented the Farrow brake. In reference to the Farrow brake patent in the U. S., would say that in one of your letters you thought it would take ten months to reach a case in the department to which the application was assigned. Why could you not put this in the place of the first application and thereby gain this ten months' time. As we understand it, the Patent Office had taken up the Farrow claims, and when that point is reached it would not require but a few weeks or months at the farthest to issue the patent.

Enclosed please find the papers asked for in reference to the power of attorney.

Yours truly, H. H. FULTON.

198 (EXHIBIT No. 25.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *June 25th*, 1897.

Mr. H. H. Fulton, Elmira, N. Y.

DEAR SIR: Your favor of the 24" instant, together with properly executed powers of attorney relating to the Farrow U. S, applications for patents received today, and said powers officially placed on file. As soon as these powers shall have passed through the governmental red tape process of being entered, recorded, etc., I will gain access to the records, when I can then learn whether or not the important case in question can be advanced, in order to gain time. Heretofore, owing to the requirement of the company's signature to the aforesaid powers, I have been unable to gain access to the Patent Office records relative to these matters.

I am now going ahead with the investigation necessary to conclude as to the patentability of Mr. Morrow's new brake invention, and expect to complete the same and forward report to Mr. Morrow, tomorrow afternoon.

Very truly yours, JAS. L. SKIDMORE.

199 (EXHIBIT No. 26.)

(*Telegram.*)

WASHINGTON, D. C., *July* 1, 1897.

To H. H. Fulton, Eclipse Bicycle Co.:

Disclosure of Farrow brake may militate against your interests. See letter mailed tonight.

SKIDMORE.

W. U. collect.

200 (EXHIBIT No. 27.)

(*Telegram.*)

WASHINGTON, D. C., *July* 1, 1897.

To H. H. Fulton:

Your man can show or introduce Farrow brake. Signed international law fully protects.

JAS. L. SKIDMORE.

Col. Postal.

201 (EXHIBIT No. 28.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *July* 1*st*, 1897.

Mr. H. H. Fulton, Elmira, N. Y.

DEAR SIR: Replying to your favor of the 29″ instant, received by noon mail today, I beg to say that it will be safe for you at present to put out a detailed sketch of the Farrow business in the foreign countries in which we have already applied for patents, as all of the foreign applications were sent abroad on the steamer which sailed from New York on June 23rd, with instructions that the said applications be filed in the respective countries immediately upon the arrival thereof, therefore, all of the said foreign applications will be actually on file within the next two or three days.

Check for $50.00 to cover expenses relating to the crank fastening device, received today. Receipt herewith enclosed.

Please accept thanks.

As soon as I receive the receipt of filing, relating to this case, the proper assignment will be forwarded for Mr. Morrow's signature, and the patent will be issued jointly to yourself and Mr. Morrow, in accordance with your request.

Very truly yours, JAS. L. SKIDMORE.

202 (EXHIBIT No. 29.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *July* 1*st*, 1897.

Mr. H. H. Fulton, Elmira, N. Y.

DEAR SIR: Replying to your telegraphic communication received today, which reads as follows:

"Our man sails Saturday for Paris. Will it militate against

patent if he shows Farrow brake there?", I beg to say that under the old law and where a patent for the invention has been granted in this country prior to making applications abroad, it was not absolutely safe to show or introduce the device until protected abroad, hence my first reply by telegram. Later, I looked up the law now existing under the comparatively recent international treaty with England, France and Germany, and find that said international law safely permits your man to show and introduce the Farrow brake invention, and such showing and introduction of said invention will not in the least militate against the patents or in any way affect their validity. Therefore, under the recent international laws, your man can go ahead with the introduction as well as the disposal of the invention, if he should find a market therefor.

Trusting this information will reach you in good time, I am,

Very truly yours, JAS. L. SKIDMORE.

203 (EXHIBIT 30.)

JULY 1, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: One of our men expected to sail Saturday for Paris. I thought we had better telegraph you to know whether it would be safe to show the Farrow brake, as we want to commence introducing it at once, and our man will take with him some wheels fitted with this style brake. Your reply to my message was—"Disclosure of Farrow brake will militate against your interests. See letter mailed tonight." This put a stop to our man's going, and now this evening, we have your telegram reading as follows—"Your man can show or introduce Farrow brake. Signed international law fully protects." You will notice that these two telegrams conflict, but I presume that upon further investigation you find that possibly a new law has been enacted that will enable us to exhibit the brake in Paris without militating against our application for patents. When did you send the papers over there? If they have not gone, please say when they will go and also let me know further in the matter, and if everything is all right our man can get away on next Wednesday's steamer, going by the way of Southampton.

Please advise me by return mail.

Yours truly, H. H. FULTON.

204 (EXHIBIT No. 31.)

Office of Farrow Arms Company.

WASHINGTON, D. C., *July 1st*, 1897.

Eclipse Bicycle Co., Elmira, N. Y.

MR. FULTON, DEAR SIR: I learned from Mr. Moseley that you were trying balls in the sprocket for the clutch device. I have thought some on that point, and wish to suggest to you the idea I

have. For instance, drill the holes or races for the balls at an angle, running back and towards the center of the sprocket this little sketch will give you the idea (sketch follows). You see as the ball would roll or be pushed out by the spring behind them, they would bite sidewise as well as up and down thus diminishing their tendency to crush, by dividing the strain in different directions. The balls could be put in pairs side by side or as suggested. in No. 1. I have not forgotten your promise in regards to letting me have a wheel to put my new idea of bearings onto. I will be ready by Tuesday of next week to make them, and if you can let me have a 26 in. frame wheel for a while, I will put the bearings on and if of real advantage will submit the same to you.

If convenient please send early reply, and oblige

V'y truly yours, W. MILTON FARROW,
315 13*th St. N. W., Wash'n, D. C.*

205 (EXHIBIT No. 32.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *July 2nd*, 1897.

Mr. H. H. Fulton, Elmira, N. Y.

DEAR SIR: Replying to your communication of the 1″ instant, with reference to the Farrow brake foreign applications, I beg to say that you are correct in your assumption that a further investigation of the more recent international patent laws between this country and England, Germany and France disclosed facts which warranted the later telegram, forwarded to you in connection with this matter. My communication last evening will answer quite fully your further inquiries relative to the foreign application papers.

Trusting your man will meet with pronounced success abroad, I am

Very truly yours, JAS. L. SKIDMORE.

206 (EXHIBIT No. 33.)

JULY 15, 1897.

J. L. Skidmore, Esq., Atlantic building, Washington, D. C.

DEAR SIR: Enclosed is a circular that I ran across in Chicago last week that looks to me very much as if we would get knocked out on the Farrow application. They have a coasting device similar to ours, also a little dog which catches in the chain when back pedaling and which operates the brake. What do you think of it? In 1894, I do not remember the month, Mr. Morrow took out letters patent for a saddle, which was assigned to the Eclipse Bicycle Co. I wish you would send us copies of this patent at once. We are returning the foreign papers today for the Morrow brake and also the

applications for United States patents and wish you would hurry them through. Enclosed you will find check for the United States patent and I wish you would send statement for the foreign patents.

Yours very truly, H. H. FULTON.

207 EXHIBIT No. 34.

1897

Sylph cycles.

Boltless.

Sylph cycles run easy.

Rouse, Hazard & Co., makers, Peoria, Ill., U. S. A.

The Phillips coaster sprocket and brake.

This new and exceedingly practical device, the invention of Lieut. Phillips of the U. S. A. attracted much attention at the recent national cycle shows. The mechanism, which is concealed in a differential rear sprocket, is simple, durable, and not easily gotten out of order. The sprocket has an exterior and interior wheel, as shown in the accompanying cut. In pedaling a ball falls into position between the exterior and interior wheels, thus locking and forming a solid driving sprocket. When, however, the desired speed is attained, the rider simply keeps his feet on the pedals, and by a peculiar arrangement of the teeth the locking balls are displaced and thrown back out of the way. The rear wheel now revolves like the front wheel without moving the outer circle of the sprocket or the chain. If the rider desires to stop, he back-pedals; this permits the chain, which passes through a hood over the tooth of the brake, to sag, thus catching the tooth and drawing the brake-spoon back against the rear tire. The accompanying illustration makes clear the construction of this brake, and so effective is it that the wheel may be stopped on any grade in from ten to twelve feet. This de-

208 vice has long since passed the experimental stage, and is now in use in all parts of the country. It has been found that with this attachment riders cannot only coast all hills and down grades with perfect safety and comfort, but that on level roads it is necessary to pedal only about two-thirds of the time. The brake is so effective that it requires only about one-tenth as much power to stop the wheel as in ordinary back-pedaling; thus the breakage of a chain in making a quick stop is absolutely unknown.

The brake-spoon is of such size and so made that the tire, after months of use, shows no more than ordinary wear. This contrivance does not in the least detract from the appearance of the ma-

chine; as there is nothing in sight except the brake, which is handsomely finished in nickel and entirely out of the way. We will fit the Phillips coaster sprocket and brake to any of our machines at an advance of $10.00 to the regular price. The makers of this device, W. H. Ballance & Co. of Peoria, Illinois, will gladly furnish any further information in regard to it.

209 (EXHIBIT No. 35.)

JULY 19, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: I have yours of the 16th, with the bill for the foreign patents on the Morrow brake. Enclosed herewith find check for the same, and if possible, I hope you will get these applications all off on Wednesday's steamer. The patent for Austria was promptly attended to, and ought to have been received by you today. The other papers were all returned to you last Friday. Please let me know when you think the papers will be sent forward, and how soon it will be safe to sell the patent in the countries in which application for letters patent have been made.

Is the U. S. patent taken out in the name of Mr. Morrow and myself? If not, it should be, or proper assignment of one-half made.

Yours truly, H. H. FULTON.

210 (EXHIBIT No. 36.)

JULY 20, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: I notice that the letters patent issued on the hub are all in Morrow's name. I do not remember of his making an assignment of one-half and I wish in the patents that you will take out, as I have written you before, that you would have the patents issued in Morrow's name and my own.

What have you done in reference to the pending brake patent, crank fastener patent, and also the hub patent that was issued some time ago. I notice that nearly all of these applications cost about $70 to $75. We have taken out a good many patents, and they never cost us over $50, including all drawings and everything relating to it, and as you are getting so much work from us, we would like to have you keep the figures down as close to the general run as possible.

Please write me at once in reference to the assignment of the one-half interest to myself in the foregoing applications, and also let me know what is being done with the brake for which application was taken out about a year ago, and which brake operated in the rear hub, and on which you thought you could get some pretty good claims. You might as well take out this patent if it is along far

enough to be ready to be issued. Please let me know by return mail.

Yours truly, H. H. FULTON.

211 (EXHIBIT No. 37.)

Office of Farrow Arms Company.

WASHINGTON, D. C., *July* 30, 1897.

Mr. Fulton, pres'd't Eclipse Bicycle Co., Elmira, N. Y.

DEAR SIR: I am desired by the agency here (Mr. Lasley being away) to write you in reference to two of the brakes which came down from the factory. Both have been brought to the shop with the same trouble, after a week's or so riding the clutches fail to hold, in going up hill, or when making a strong pull forward. I find the reason seems to be the outside sprocket has stretched or increased in diameter, and the springs behind the clutch-pins are short and stiff, not following the clutch-pins to the end of their raceway or incline, and this allows the outside sprocket to revolve forward and not hold. I enclose to you some of the springs taken out of one of the sockets I have just fixed up with new springs; and new clutch-pins 5 thousandths larger in diameter than the ones that came down from the factory, this will repair it temporarily but I think the outside sprocket will stretch more and get loose again as the metal is too thin to stand the strain. If made of 9 teeth then you would have metal enough not to stretch. In regards to these springs somebody ought to be responsible for putting in such bad work. They are not working for the best interests of the brake or the reputation of the Eclipse wheel. I enclose you such a spring as ought to be used also a bit of the unrolled wire that you may get
212 the size of it. This spring will push the clutch-pin to the end of the incline and is springy and flexible.

I wish to call your attention also to the loose way the hood-piece that catches the chain, is fitted to its pin. If you will personally put your finger on the top of some and see if they are loose sidewise and shaky so as to make a rattling sound, these two I have found to be very loosely fitted and I fear it will cause you lots of trouble if you send out many sprockets and brakes so badly adjusted.

I trust you will excuse my frankness but I think *you* should know personally where the difficulty is, and I hastily comply with their desire that I write you on the matter.

I saw the other invention of brake sent down from the factory some time since, but it seems to be covered by a patent already granted, the 4th claim of which is very broad. I presume Mr. Lasley or Mr. Skidmore has told you of it for I mentioned it to both and we looked at the patent and claims. I also asked Mr. Skidmore about the case we had to divide, if he had filed the papers for the

division, it applied the brake from the theeth of the big crank sprocket-wheel. He said he had not received orders to file the papers for that.

I feel certain it ought to be done, for if you wish to apply a brake without catching the chain, it is possible, in this way, and not interfere with that patent already granted and before mentioned.

Very truly yours, W. MILTON FARROW.

213 (EXHIBIT No. 38.)

AUGUST 7, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: Yours of the 22nd would have been answered sooner but for my absence. All the patents taken out by Mr. Morrow should be in his name and mine unless expressly stipulated otherwise. Please have the assignments prepared at once for the patents and send them forward so that we can have Mr. Morrow sign them.

Wish you would attend to this at once.

Yours truly, H. H. FULTON.

214 (EXHIBIT No. 39.)

AUGUST —, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: Replying to yours of the 9th, enclosed please find assignments in reference to the crank fastener device for bicycles. You will notice that it has been signed and witnessed, and all right for record.

Yours truly, H. H. FULTON.

215 (EXHIBIT No. 40.)

AUG. 14, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: The acknowledgment of the receipt of applications in foreign countries for the Farrow brake has been received, for which please accept thanks.

Yours truly, H. H. FULTON.

216 (EXHIBIT No. 41.)

Eclipse Bicycle Co.

ELMIRA, N. Y., *Sept.* 11, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: Yours of the 4th to Mr. Morrow, in reference to the Moise patent has had a good deal of careful consideration. In going into the matter very closely, we are of the opinion that the way his

sprocket is made that it is absolutely impractical. In fact, it would not work at all, as shown by his drawings. It might be well to go on with the claims for ours and get them into the Patent Office as soon as possible. What have you done in the matter, and what has been done in reference to the foreign application? Do you think that the applications that are now pending in foreign countries for the first Morrow brake, which we think broadly infringes the Stover patent, will be upset by that patent? In other words, it having been taken out a number of years ago, would it not invalidate our patent even if we get one?

Do you think that the two applications, viz—the ball bearing sprocket that you are now working on, and the application that now is in foreign offices, would give us protection enough to make the patents of any value? Now we think it important that you hurry these applications in, and would like to know when you will have them ready.

In reference to the enclosed invoices, will say that they are a surprise to us. We supposed that the application on foreign
217 patents had been paid in full, and wish you would see whether we are right in the matter. As to the claim of the $50.00 for the services in preparing the application on Farrow's device, which you showed to the writer when there will say that we do not remember having ordered this done, and think that if anyone pays for it, it ought to be Mr. Farrow. Please look it over and if you can make a correction do so, and we will give the matter our further attention.

Yours truly, H. H. FULTON.

Answer in full. O. K. Sept. 14/97.

218 (EXHIBIT No. 42.)

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: We have yours in reference to the application on the ball bearing sprocket, and brake, with friction on the hub. We do not believe that there is much in the friction hub business, as there are so many ways that these frictions can be made that it would be easy probably, to get around our claim. What we want is a broad claim on the ball bearing sprocket and also a broad claim on the clutch that works on the crank or crank shaft. We wish you would try and get two claims, so that they can be used separately, or in connection with a brake that would work on the tire instead of on the hub.

We notice that a good many of the claims are given up to the hand brake, which we do not care much about, at the same time, if we could secure a hand brake in connection with the clutch on the shaft, it would be well enough to do this.

Claims on the coasting device we think a good one, but that would probably be limited to that particular construction yet it would be

difficult to make a coasting device that would be as simple in construction as this, but of course it can be done.

It looks to us as if the first claim we made on the Morrow brake ought to be re-written, or, if you think this claim for the clutch on the machine can be so protected so as to give us what we would like to have, without interfering with the first application, it will
219 be all right. It looks to us as if the broad claim on the clutch that is fastened to the crank or shaft will be the arm that projects out from the periphery of the clutch. This arm ought to be broadly claimed, but do not confine it to an arm only, but to a projection into which a nut or bolt could be fastened, and if you can show on the periphery gears so as to work into a gear that would be fastened to the frame, it would be a good idea, for I do not think that the brake can be operated practically if attached to the clutch in any other place than the periphery. Try and claim this broadly. Also the claims for the sprocket, and then if you want to get a claim connecting the clutch with the band brake, that will be all right, but what we want you to do is to claim broadly the clutch with the arm or some kind of a projection to which a rod can in some way be fastened, and as this is not shown broadly in your claim, we wish you would be kind enough to re-write this part of it and send the claim back to us at once. We will hold the foreign patents until we get this, but wish you would hurry up. Will this in any way interfere with the first claim that was put in on the Morrow brake? Or could you withdraw the first claim and put into it the broad claim of the projection from the periphery of the clutch. Please take it up at once and advise us what your opinion is in the matter. We fear now we are going to be limited largely to our construction in these matters.

In the patent of Stover and Hance which you sent to us which seems to anticipate the operating of a brake by back pedaling, you will notice that this is operated by a cam striking against the arm of the brake shoe. Now do we understand that they would
220 be limited to their construction, or does it give them the broad right to the use of any device that would operate the brake by back pedaling, where such operation would be attached to the crank shaft or the crank? If limited to their construction, of course we do not in any way infringe on it. What is your opinion in this matter?

Yours truly, H. H. FULTON.

Do you not think the idea of a broad claim as suggested a good one?

221 (EXHIBIT No. 43.)

SEPT. 23, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: Yours of the 22nd just received, and I must say that it is a very discouraging letter. We have gone to a great expense in perfecting the brake and have prospects of a very large trade, but

if we are direct infringers on the Stover and Hance patent, it will leave us in a bad shape in case of litigation, and not only that, it will knock us out of the sale of a large number of brakes that we expect to put on the market. Now I can hardly understand how you would write us that you could get good claims on the first *Morrow* brake over the Stover & Hance, and then in a letter today say that they would not be limited to their construction as illustrated in the drawings, providing they were the first to use any device in connection with a crank that would operate the brake by back pedaling.

I will try and go down tomorrow night and see you in reference to these matters. If there is any *claim* that we can get claims that will enable us to get around the Stover & Hance business, or if we can get claims that will induce them to combine with us and form a combination that would control the brake, then we would like to work something of that kind.

I cannot tell whether I will stop at Philadelphia on my way, but think I shall, and in that case would not get down to Washington until the afternoon or evening of Saturday, and if I do not
222 see you before th[illegible] o'clock of that day, I wish you would call at the Cochran house between seven and eight in the evening, or at our store, and we will go over these matters.

Yours truly, H. H. FULTON.

223 (EXHIBIT No. 44.)

SEPT. 29, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: Enclosed find the application for patent, as talked about, for the U. S. In reference to the attaching of the clutch to the hub of the crank, we think this ought to be done, and do not see why it would be necessary to put in a separate patent. In the first place, the application is for a brake, and the mere attaching of the clutch to the hub of the crank instead of the axle, ought not to make it appear as a patent on a crank, and if you can put this in and get a good claim on it, I think it would be the thing to do. I don't see the consistency of throwing the claim out simply because the clutch which operates the brake, and is used for no other purpose than in connection with the brake, should be classified as a crank simply because it will be attached to the hub of the crank that is fastened to the crank axle.

We ought to get the Morrow brake patented in Canada, and it seems to me that the enclosed application should em*o*body all we want, including the first application that Morrow put in. Don't you think so? If you do, go ahead and apply for patent on the enclosed in Canada. Please have the assignments made [illegible] one-half of all to myself. It seems to me that the better way would be in these applications to have the application show that one-half belongs to myself, and in that way a separate assignment would not be neces-

sary, and the assignment would then appear right in the letters patent.

224 We gave the Austrian paper to a notary last evening, who will attend to getting the necessary signatures of the clerk and Secretary of State, and forward same to you promptly.

I wish you would file enclosed U. S. patent at once, as we think it important to get as early an action on it as possible.

Yours truly, H. H. FULTON.

If, in your opinion it will not avail much to put clutch claim, on hub of crank, then let it go as it is.

225 (EXHIBIT No. 45.)

OCT. 2, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: One of our travelling men has just returned from New Hampshire, and says he saw a brake in use that was patented by a Mr. Jos. Little, and that he has placed his patents in the hands of some attorneys in Boston, who claim that he has the ground floor patents on all brakes operated by back pedaling, and also on all coasting devices. He claims that his patents were taken out nine or ten years ago, and the brake is operated by a band on the hub, right next to the rear sprocket, and from this band there is a small wire or cable that passes through the brace rod to a clutch that is fastened to the crank shaft.

Suppose you look through the records of brake patents and see if you can find anything in the name of Jos. Little, and if so, send us copies of what he has. It begins to look as if there were a good many more of these brakes than we anticipated.

Will you be kind enough to look this up at once, and let us know what you think about it.

Yours truly, H. H. FULTON.

226 (EXHIBIT No. 46.)

OCT. 9, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: I have yours of the 8th, and also yours to Mr. Morrow has been referred to me, with the acknowledgment of the receipt of foreign applications. How long do you suppose it will be before the patents will be issued for these? Is the English a provisional patent, or taken out so that it can be renewed in the course of a year, and by so doing make it a little less expensive?

In reference to the application for letters patent for the device that you and I talked about when I was in Washington, which takes in the brake on the rear hub, will say we expect to have the first one of these hubs built today, and have been waiting to test it before deciding what to do in taking out the patents. We have not the

shadow of a doubt but that it will work all right and that we will want to take out good broad claims on it. Will advise you Monday, and I have no doubt will send a check for funds required to put them through, as referred to in your letter.

If you have not found the Jos. Little brake patents referred to, have you found anything else that would in any way anticipate the Stover? We have a favorable offer from the Stover people for the purchase of their brake, and have in turn made them an offer for their patent. Do you think that if we come into the possession of the Stover patent, that it, with what we have, would enable us to control the back pedaling device?

Yours truly, H. H. FULTON.

227 (EXHIBIT No. 47.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *October* 11*th*, 1897.

Mr. H. H. Fulton, Elmira, N. Y.

DEAR SIR: Replying to your favor of the 9th inst., I beg to say that the foreign patents, it is believed, will issue anywhere from two to six months from this date. There is no stipulated time or regular time, within which such patents must issue. The English patent is not a provisional patent, but is a complete patent which will be granted for a term of fourteen years.

With reference to the U. S. and foreign applications I now have on hand relating to Mr. Morrow's new and latest invention, I have to say that in view of your past instructions, the papers, drawings, and everything required in said applications, are in readiness and awaiting a check for funds required to put them through. I trust your test will prove satisfactory in every respect.

I have not been able to find the Joseph Little brake patents recently referred to by you, and have not as yet disclosed anything to fully anticipate the patent to Stover and Hance. Of course, I have not made a search as to the validity of the Stover and Hance patent, as you have not ordered such search, and further, it will require several weeks to make a thorough and reliable validity search under said patent, in order to fully cover the ground. As
228 far as I am aware, up to the present time, it appears that possession of the Stover and Hance patent would enable you to control the back pedalling device as applied to brakes for bicycles or velocipedes. Awaiting your reply, I am,

Very truly yours, JAS. L. SKIDMORE.

229 (EXHIBIT No. 48.)

OCT. 11, 1897.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: In reference to the application for letters patent on the new device, would say that I wish you would crack ahead and we will chance the additional expense.

Enclosed please find check for $325., being the amount of your bill for the foreign patents. This will pay up bill in full, but I wish you would, if you have not done so, file the U. S. applications at once. Your other bills, amounting to quite a little sum will be taken care of the last of the week, as we are just a little short of funds, especially at this time of year, when expenses are very heavy.

Very truly yours, H. H. FULTON.

Put in the U. S. application quick.

230 (EXHIBIT No. 49.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *Nov.* 16, 1897.

Mr. H. H. Fulton, Elmira, N. Y.

DEAR SIR: The Patent Office has declared an interference between Mr. Farrow, Mr. A. A. Phillips of Galesburg, Ill., and Frederick Clark, Clear Lake, Minn. The subject-matter of this interference, is the broad claim involved in the application for patent filed by Mr. Farrow, relating to the bicycle brake operated by engagement with the driving or sprocket chain. I will prepare and file on or before December 8, 1897, the preliminary statement required by the Patent Office in this matter.

Very truly yours, JAS. L. SKIDMORE.

231 (EXHIBIT No. 50.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *Dec.* 14, 1897.

Mr. H. H. Fulton, Elmira, N. Y.

DEAR SIR: *In re* three (3) interferences relating to Mr. Farrow's pending application for patent, which interferences are numbered as follows:

19,092; 19,093 and 19,094.

I have prepared and filed a sworn statement in each of the above-named interferences, which statements will be considered by the Patent Office authorities at an early date.

I will keep you posted as to the progress of these matters.

Very truly yours, JAS. L. SKIDMORE.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *Dec.* 8, 1897.

In the matter of the interference of—

PHILLIPS
v.
FARROW
v.
LITTLE.

Intf. No. 19,092.
Before the Examiner of Interferences.

SIR: You are hereby informed that the preliminary statement of W. M. Farrow has been received and filed.

232 By direction of the Commissioner:

Very respectfully, GEO. L. MORTON,
Chief Clerk,

Per A.

W. M. Farrow, care Jas. L. Skidmore, city.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *Dec.* 8, 1897.

In the matter of the interference of—

PHILLIPS
v.
FARROW
v.
CLARK.

Intf. No. 19,093.
Before the Examiner of Interferences.

SIR: You are hereby informed that the preliminary statement of W. M. Farrow has been received and filed.

By direction of the Commissioner:

Very respectfully, GEO. L. MORTON,
Chief Clerk,

Per A.

Willard M. Farrow, care Jas. L. Skidmore, Washington, D. C.

233 DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *Dec.* 8, 1897.

In the matter of the interference of—

PHILLIPS
v.
FARROW. } Intf. No. 19,094.
Before the Examiner of Interferences.

SIR: You are hereby informed that the preliminary statement of Willard M. Farrow has been received and filed.

By direction of the Commissioner:

Very respectfully, GEO. L. MORTON,
Chief Clerk,

Per A.

W. M. Farrow, care Jas. L. Skidmore, city.

234 (EXHIBIT No. 51.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *Jan'y 14th*, 1898.

Mr. H. H. Fulton, Elmira, N. Y.

DEAR SIR: *In re* interferences Nos. 19,093 and 19,094, Phillips *vs.* Farrow. Phillips *vs.* Farrow *vs.* Clark.

The attorneys for Phillips served notice on me today (copies of which notices are herewith enclosed), to the effect that he would proceed to take testimony in behalf of Phillips in Galesburg, Ills., on the 19th inst., and in North Da[illegible]a on Feb. 3d and 5th, respectively.

If you desire me to attend the taking of said testimony and cross-examine the witnesses in order to properly protect the interests of your company in the above named matters, kindly inform me, at once, and send check to cover travelling expenses.

Awaiting your reply, I am,

Very truly yours, JAS. L. SKIDMORE.

235 (EXHIBIT No. 52.)

JAN. 17, '98.

Jas. L. Skidmore, Esq., Washington, D. C.

DEAR SIR: I have yours of the 8th, in which you say you have procured an allowance of the first application filed by Farrow, and that it is for a hub brake. We do not know anything about this, and doubt whether it is worth paying the price of the final fee.

As I understand it, it is not the brake we purchased from Farrow. There are so many hub brakes on the market that it makes a patent of this kind almost valueless.

In regard to taking testimony at Galesburg, will say that I understand that someone had proven priority of invention so far ahead of Farrow that it left no chance whatever for the latter, and if this is the case, there is no use in sending good money after bad. The mistake we made was in advancing Farrow so much money before we knew what he had and it looks now as if he had nothing that was worth the price of a postage stamp. If I am correct in my opinion, there is no use in prosecuting his case any further, for if Mr. Phillips or anyone else can show that they invented a brake a year before Farrow thought of it, I do not see what chance there is for us.

Since writing the above, I have yours of the 13th, saying that trade-mark had been allowed. Will there be any final fee to pay, and if so, how much?

We find that the clutch that we are now using, notwithstanding the ball bearing application, is not going to stand up; we have used every means in our power to strengthen the clutches,
236 using the very finest quality of tool steel and making all parts as heavy as possible, but notwithstanding this the clutches will break and it has caused us a good deal of anxiety. We believe now that Mr. Morrow has devised a clutch new and novel that will stand up to good, hard work, and we think that the clutch being so much different from anything else, can be broadly patented. We do not think it will be necessary to combine this clutch with any pending applications for patents in the U. S., but get out as broad a patent as possible on the clutch itself. Will try and send drawings to you in a day or two; we think, however, that this clutch ought to be combined with the Canadian patent and by so doing we will get the clutch patented, and also the broad claim of operating the brake by means of mechanism between the crank shaft and friction on hub. Please let me know whether you cannot combine the clutch in the Canadian patent and then apply for separate letters patent for the clutch in the U. S. You probably can determine this matter after seeing the drawings, which will probably go forward in a day or two.

Yours very truly, H. H. FULTON.

237 (EXHIBIT No. 53.)

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *Jan'y* 19, 1898.

Mr. H. H. Fulton, Elmira, N. Y.

DEAR SIR: Replying to your favor of the 17th instant, I beg to say that one of the interferences in which Farrow's case is involved has been decided against both Farrow and Phillips on the Patent Office record. Little, the party in whose favor this interference was

decided having filed his case in the office more than one year before either Farrow or Phillips conceived the subject-matter involved. This settles interference A.

Interference B, includes Farrow, Phillips and Clark. Times have now been set for taking testimony in this case and the decision of the Patent Office will depend upon the testimony furnished by the parties involved.

Interference C, includes Farrow and Phillips. Times for taking testimony in this case have also been set, and the decision of the office will, of course, depend upon the testimony furnished.

In view of the sworn statement now of record in behalf of Phillips, it appears that he had his invention in use in the streets of Galesburg about six (6) months ahead of Farrow, and Clark filed his application in the Patent Office about six (6) months before Farrow, therefore, it is believed that it would not pay your company
238 to fight, as the latter means considerable expense, and starts with the outlook for ultimate success very poor to say the least. We were compelled to fight up to the present time in order to comply with the official requirements, but now that the other parties to these contests have been compelled to show their records and we find the chances against us, it is not believed prudent to go to any further expense. However, let me have your views after you shall have perused the foregoing.

Trademark case.—No final Government fee is required in this class of cases.

Canadian case.—Concerning this matter I have to inform you that all subject-matter allowable under the patent laws of Canada, is now involved in this case and additional matter involving a departure from what is now in the case would not be permitted. It is suggested that the patentability of the new clutch be looked into in this country, before considering the Canadian patent with reference to this new invention, drawings of which I have not yet seen. Upon receipt of the drawings of the said new invention, I will make careful search and report to you as to the merits and patentability over and above what has already been patented bearing upon the subject.

Please execute the Canadian application papers forwarded to you some time ago, and forward same with fees, and they will be officially placed on file at once.

Awaiting your reply, I am

Very truly yours, JAS. L. SKIDMORE.

239 (EXHIBIT No. 54.)

Office of Farrow Arms Company.

WASHINGTON, D. C., *Feb.* 14, 1898.

Eclipse Bicycle Co., Elmira, N. Y.

DEAR SIR: I have heard nothing from you relative to your progress in the manufacture and sale of our brake. I notice you are

selling a good many brakes and some call it the "Morrow coaster" and not *Farrow* coaster.

Please give me some information about this matter at your earliest convenience, and oblige,

Very truly yours,

W. MILTON FARROW,
315 13*th* St. N. W., *Wash'n, D. C.*

240 In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
THE ECLIPSE BICYCLE CO. } In Equity. No. 19095.

James L. Skidmore, being duly sworn, says:

I reside in the city of Washington, D. C., and during all the times hereinafter mentioned was a solicitor of patents doing business in said city. I have been a solicitor of patents for the past twenty years, but have never been admitted to the bar.

Some time about the middle of May, 1897, Mr. H. H. Fulton, president of the Eclipse Bicycle Company, of Elmira, N. Y., telephoned to me at my office in the Atlantic building about seven o'clock in the evening, requesting me to come immediately to the local agency of the Eclipse Company. I went there, and found there present Mr. H. H. Fulton, Mr. J. D. Lasley, local manager of the branch store of the Eclipse Company, a man to whom I was introduced as Mr. W. M. Farrow, and Mr. James M. Pollard, with whom I had been acquainted for many years theretofore. Mr. Pollard was, at the time of this interview, employed in the Pension Office, as I was told. He is now dead.

After having arrived at the local office of the Eclipse Company, Mr. Fulton, president of the company, informed me that he desired me to consult with the parties present with reference to a deal that he had on hand. At the same time he called my attention to a
241 bicycle brake, and disclosed to me the operation and construction of the brake, and informed me that it was the invention of Mr. Farrow, a party to whom I was introduced as the inventor. Mr. Pollard acted as attorney for Mr. Farrow, and joined in the consultation.

The brake which was then shown me was upon an Eclipse bicycle. It consisted of a brake-shoe hung upon the frame of the bicycle, and adapted to press against the tire of the rear wheel. A rod extended from this brake-shoe to a small frame pivoted upon one of the side-bars of the lower rear fork of the bicycle. The upper portion of the chain ran through this frame, and a dog was hung in this frame so as to engage in the openings in the chain whenever the movement of the chain was reversed. The frame containing the dog was so pivoted that it could swing backward and forward, and upon swinging backward the rod connecting it with the brake-shoe would pull the latter against the tire of the wheel, and cause the braking effect. When the bicycle was running for-

ward the chain ran freely through the frame, and pushed the dog out of an engaging position.

In the rear hub was some kind of a mechanism which I assumed to be a clutch, by means of which the rear wheel could revolve forward freely whenever the chain remained stationary. The operation of the device was explained to me as follows: That a rider could drive the machine forward, the clutch in the rear wheel taking effect for the purpose of this driving, in connecting the sprocket-wheel upon the rear hub with the hub itself. When the rider stopped the movement of the pedals, holding his feet stationary, the rear wheel would run on freely by reason of disengagement of the clutch, and the rider could coast forward as desired. But upon back-pedaling, the motion of the chain then being reversed,
242 the dog in the little pivoted frame would engage in an opening in the chain, and the brake-shoe would be pulled against the tire of the rear wheel and produce the braking effect.

The conversation then continued between Mr. Fulton, Mr. Farrow and Mr. Lasley concerning a conversation and a verbal agreement which they had had previous to this meeting. Mr. Fulton said to Mr. Farrow that he had agreed to certain things to which he now refused to agree; and Mr. Farrow seemed inclined to stand out for a different agreement than that theretofore understood between Mr. Fulton and Mr. Farrow; whereupon I advised Mr. Fulton to let the matter drop for the present, at least, since I understood from Mr. Fulton that Mr. Farrow wanted more than he had agreed to accept prior to this interview. Mr. Farrow then seemed ready to accept the terms proposed by Mr. Fulton during this interview, and asked that the matter be closed up, and expressed himself as eager to have the papers drawn up and signed during the evening, but Mr. Fulton said it would not be possible to conclude a deal of this kind on the spur of the moment, as he desired to submit it to his associates. Mr. Pollard had a conversation with me in the presence of the others to the effect that he was not a patent attorney; being employed in a Government department, he did not understand the routine of Patent Office practice thoroughly at that time, and thought it would be best for me to take hold of matters for Mr. Farrow and prosecute the invention before the U. S. Patent Office, and that he would turn all papers in his possession over to me at my office whenever Mr. Farrow desired him to do so. Mr. Farrow acquiesced in this, and agreed to appoint me as his attorney; and it was said by Mr.
243 Fulton that if it was agreeable to Mr. Farrow and Mr. Pollard to have me act, he would pay all expenses of procuring the patent on this brake.

Mr. Pollard, attorney for Mr. Farrow, informed me during this interview that claims of great breadth and scope could undoubtedly be procured, since the official action on the part of the Patent Office examiner was almost entirely an objection to informalities of the drawing and objections to the language only in some of the claims, and not to the essence of the invention. He assured me that he had looked carefully over the patents cited by the examiner in his offi-

cial letter as showing the prior state of the art bearing on the invention, and that none of the patents had any pertinency or material bearing on the invention involved. He did not at this interview specify any of the patents cited by the examiner. At the meeting held at the store of the Eclipse Bicycle Co. there was not a word said to me nor in my hearing to any one in reference to Farrow having sold or acquired any part of his interest in his invention to anyone else, nor was there anything said by anyone to me or in my hearing before I delivered to Farrow his check and notes on or about June 8, 1897, that could suggest that Farrow was not the sole and full owner of all rights in his invention in every respect.

After the conclusion of this meeting I did not see Mr. Fulton again for some weeks.

The next day I went to the Patent Office, and began to examine the patents classified in the Patent Office as bicycle brakes; and I did not find anything among those patents that in my mind would prevent claims of considerable breadth and scope being granted for
the Farrow tire-brake that I had seen the night before. This
244 examination continued for several days, during which time
I examined various other types of brakes, such as wagon brakes, car-brakes, and brakes for various purposes, still without finding any patent that in my opinion prevented the obtaining of broad and valid claims upon the Farrow device that I had seen.

On May 21st, 1897, I wrote to Mr. Fulton the letter Exhibit 1, attached to his affidavit, which I have read.

While I was making this investigation, Mr. Pollard called at my office with the Farrow application papers, and at the same time informed me that this application included several modifications of brakes which he understood, when the application was first filed by him as attorney for Farrow, might be covered by a broad claim; that is, the claim might be of such breadth and scope as to cover these modifications, without its being necessary to file a separate or divisional application; but under the present office practice he found that it would be necessary to file a separate application for the modified forms of brakes other than the one which had been exhibited to me on the bicycle. At that time he informed me that these modified forms were mere details, and were simply added to the case in case they should at some future time prove of value, but that he considered the only meritorious brake shown in this application was the one I saw at the branch store of the Eclipse Company, as above described. At this time also he assured me that there was nothing cited by the examiner in the way of prior patents that would prevent us from procuring broad and valid claims on that invention.

Mr. Farrow came to my office daily, and urged me to hurry
245 the contract along as he was anxious to finish it. He informed me that he was very hard up financially, and urged me to hurry from day to day, in order that he might sign the contract and get hold of some money. Mr. Fulton also on the evening above mentioned directed me to prepare and forward the contract

for signature as quickly as possible, as he was desirous of closing the deal at once.

Under this pressure, I progressed as rapidly as possible; and on May 21st, 1897, I wrote to Mr. Fulton the letter, Exhibit 1, attached to the affidavit of Mr. Fulton in this matter.

I then proceeded to prepare an agreement between the parties; and on May 22nd I wrote to Mr. Fulton the letter, Exhibit 2, attached to his affidavit herein. May 22nd fell on a Saturday, and from this letter it appears that I had prepared the contract and submitted *to* to Mr. Farrow.

By May 24th I had concluded my investigation, and on that day wrote to Mr. Fulton the letter of that date, Exhibit No. 3, attached to his affidavit. With the letter I enclosed to Mr. Fulton the draft of the contract.

Before the meeting above referred to I had done a considerable amount of patent soliciting work upon inventions made by Mr. Alexander P. Morrow. Among them was an invention of a back-pedaling brake, the application for which was filed August 1st, 1896, and which ultimately resulted in the patent No. 641,983 dated January 23rd, 1900. A device for attaching spokes to hubs, patented July 13, 1897, a peculiar form of hub, and a gas engine (ap-
246 plication filed June 5, 1896, serial No. 594,347, allowed Oct. 2, 1896) were other of Mr. Morrow's inventions for which I prepared applications for patents prior to the meeting above mentioned.

In the course of the investigation above mentioned, I had received from Mr. Pollard the notices of rejection of the two Farrow applications, in each of which the Stover and Hance patent No. 418,142 was cited as a reference to certain claims. When Mr. Pollard brought me the papers, he brought with them a copy of the patent to Stover and Hance, No. 418,142, and called my attention to several patents which had been cited by the examiner in his official action, but assured me that none of the patents cited by the examiner had any material bearing on the invention of Farrow's which I had seen on the bicycle at the company's store, and that there was no doubt that broad and valid claims could be secured for it, and that all that was necessary in the premises was to correct informalities in the drawings—that is, to make the drawings meet the official requirements—and amend the claims in a formal way, to meet the examiner's requirements; but he thought that I could broaden the claims instead of making them more specific, since the field was clear, and the invention was broadly new.

Later, on and before May 24th, 1897, I glanced over the references cited by the examiner in his official letter, and concluded that broad claims could be obtained over the said references cited. During my examination of the said Stover and Hance patent, I noticed that sheet I of the drawings, which appeared to be the main sheet, showing the entire machine, had reference to a spring frame
247 for bicycles; and in glancing over the description of this patent, I found that the specification on page 1 of the printed patent is entirely devoted to a description of a spring-frame. Then,

referring to the claims of the patent, especially the first and second claims, I discovered that they also referred to the frame of the bicycle; and since in the great majority of patents granted the first of the claims set out is the broadest, I did not go deeper into the matter at this time as I supposed there had been a mistake in citing this patent which was not classified in the Patent Office under brakes, especially as the first page of drawings, the first page of specifications and the first two claims referred only to bicycle frames, and was not aware of the breadth and scope of claims 4 and 5 which referred to a bicycle brake; and since I was hurried on both sides, Mr. Farrow calling daily and urging the completion of the contract, I endeavored to serve the parties promptly, and hence was compelled to finish my investigations without prosecuting them as thoroughly as I would have liked to in a deal of this kind.

On June 3rd, 1897, I wrote to Mr. Fulton the letter, Exhibit 8, attached to his affidavit. The clause relating to foreign patents referred to in this letter is the same that is referred to in the letter Exhibit 6 from Mr. Fulton to me, that is attached to Mr. Fulton's affidavit. The pencil changes on the said Exhibit 6 are in my handwriting.

In this letter of June 3rd I refer to "a careful search and consideration of the circumstances involved relative to the deal with Mr. Farrow," which is to be understood as meaning that a careful search was made in the art to which the invention relates, viz:
248 brakes of various kinds; and not in the entire class of velocipedes, including frames, saddles, pedals, wheels, hubs and other details which constitute parts of a bicycle. The language "the circumstances involved relative to the deal" means that both parties to the deal were in a great hurry to sign the contract and consummate the deal, and that I was not given time to make an exhaustive search. In order to prepare a thorough opinion on this subject, it would consume from four to six weeks of constant employment.

I received in due course of mail the letters Exhibits 4, 5, 6 and 10 from Mr. Fulton.

Exhibit 11 is the original letter that I wrote to Mr. Morrow on June 5th, 1897. The hub and spoke fastening device referred to in the first paragraph of the letter is the device I have referred to above as being one of Mr. Morrow's inventions for which I solicited the patent, and for which a patent had been issued July 13, 1897.

Exhibits 12 and 13 are original letters, produced from my files, from Mr. Frank F. Weston and Mr. H. H. Fulton. I am unable to find the clipping that is referred to in the postscript of Exhibit 13, and do not remember what it showed.

Exhibits 14, 15 and 16 are original letters written by me on their respective dates to Mr. Fulton. In Exhibit 14 the "certain conflicting patent" refers to the fact that Mr. Lasley had informed me that someone had seen in a bicycle show a device somewhat similar to Farrow's and I wished to wait until the last possible moment in order to see whether such a patent would issue for such a device, and

be published in the Official Gazette issued by the U. S. Patent Office.

The first paragraph of Exhibit 15 contains the statement that the Patent Office examiner had informed me that no patent had
249 been granted for an invention such as the Farrow invention upon the bicycle that Mr. Fulton and I had seen on the evening of our meeting above referred to. By this time I had also examined the Patent Office records as to the title to Farrow's invention, and had found nothing on record relating to it.

The agreement of June 5th was promptly recorded in the Patent Office.

Exhibits 17 and 18 are original letters produced from my files, and were received by me from Mr. Fulton shortly after their dates.

I prepared applications for patents on the Farrow brake for England, Germany, France, Austria and Belgium, and forwarded them, after obtaining the necessary powers of attorney from Mr. Farrow, to my foreign correspondent, and he forwarded them to the respective countries. These applications were filed, and we obtained the patents in England, France, Austria and Belgium; but I do not now remember that we obtained the German patent. I think it was rejected by the German patent office.

Exhibits 19, 20 23 and 25 are original letters written and mailed by me to Mr. Fulton on their respective dates.

Exhibit 21 is an original letter written and mailed by me to Mr. Whittier on its date.

Exhibits 26 and 27 are copies of telegrams sent by me to Mr. Fulton on July 1st, 1897.

I recognize Exhibit 22 as a copy of a letter received from Mr. Fulton shortly after its date. The brake referred to in this letter is the brake that was patented to Mr. Morrow by letters patent
250 No. 611,073, and a copy of which is found in the printed record in this case. I have searched my files for the original of this letter, but was unable to find it.

Exhibits 28, 29, 32, 47, 49, 50, 51 and 53 are original letters sent by me to Mr. Fulton on their respective dates.

Exhibit 41 is an original letter produced from my files and received from Mr. Fulton shortly after September 11th, 1897. My office copies of letters written by me for the period beginning May 1st, 1897, to and including March 1st, 1898, have all been destroyed, as it has been my custom, after my files of such copies are about two years old, to destroy them all. As appears from the note upon Exhibit 41, I answered the same September 14th, 1897. After careful search I am unable to find this letter.

Exhibit 49 is the first notice that I gave to Mr. Fulton or to anyone connected with the Eclipse Bicycle Company of the declaration of an interference involving an application of Mr. Farrow's in my hands. The preliminary statements of Mr. Farrow which are printed in the transcript of record in this case were prepared early in December, and were filed as appears from Exhibit 50 and its attached filing receipts.

Exhibit 51 is an original letter sent by me to Mr. Fulton on the day that I received notice as to taking testimony in two of the three interferences that were declared, as shown in my prior letter Exhibit 50.

In Exhibit 53 is contained my advice to Mr. Fulton regarding these interferences. The first interference that was declared, No. 19,092, was an interference in which one Joseph A. Little was a party; and it resulted in a judgment of priority in favor of said Little as against Mr. Farrow and Mr. Phillips, a third party thereto,
251 for the reason that Mr. Little had filed his application for patent before the date which Mr. Farrow alleged as his date of conception of the issue involved in said interference. This of course left no opportunity whatever for Mr. Farrow to contest this interference. The two other interferences, 19093 and 19094, continued, and as appears by the papers printed in the transcript of record in this case, resulted in decisions against Mr. Farrow. No testimony was taken on the part of Farrow in either of these interferences, nor did anyone appear on behalf of Farrow at the taking of Phillips's depositions. I considered it useless to oppose the case Phillips set up in his preliminary statements, and I therefore so advised Mr. Fulton in my letter, Exhibit 53; my conclusions being further reached by several lengthy interviews with Mr. Farrow in person in my office, during which interviews I endeavored to have him go back as far as possible with the date of conception, disclosure, and reduction to practice of his invention, insisting at the time that he must have proofs sufficient to sustain his contention and to overcome the dates set up by Mr. Phillips, one of the parties to these two interferences, in his preliminary statement of record. I read to Mr. Farrow copies of the preliminary statements filed by Mr. Phillips, and informed him that he must establish dates prior to those set up in the preliminary statements filed by Mr. Phillips.

Prior to the filing of preliminary statements in these interferences, Mr. Farrow visited my office at my request, and I informed him that he must furnish me with the earliest dates possible that he would be able to establish concerning the conception of
252 his invention, the making of drawings thereof the reduction to practice by the making a working machine and the use to which his invention had been applied; and after several consultations I prepared the preliminary statements filed in behalf of Mr. Farrow, incorporating the earliest dates he furnished me, and the earliest dates he was confident he could sustain in the controversy. Mr. Farrow informed me that he invented the subject-matter constituting the issues of these interferences while he lived in Charlestown, W. Va., but that he had no witnesses or testimony which he could produce which would sustain his contention to priority of invention over the dates set up by Phillips in his preliminary statements. Later I advised Mr. H. H. Fulton to the extent disclosed by the communication dated January 19th, 1898, marked Exhibit 53.

Being aware of the evidence required in interferences such as these, and noting the use by Mr. Phillips of his device on the streets

of Galesburg, as set forth in his preliminary statement, I endeavored by all means possible to have Mr. Farrow, during the several meetings at my office, establish the use of his invention at an earlier date than that set forth in his preliminary statement, or earlier than the use set forth by Phillips in his preliminary statement, provided he could support such contention by competent evidence; but Mr. Farrow informed me that he could not establish use or reduction to practice of his invention prior to the time set forth by Mr. Phillips, or to that named in his, Mr. Farrow's, preliminary statement.

After the invention of Mr. Farrow was placed in my hands for prosecution before the U. S. Patent Office, I was required
253 by the Patent Office examiner to file a separate application thus eliminating all modified forms of the brake incorporated in the original application, and illustrate, describe and claim one form or construction of brake, such as was shown me in the company's store hereinbefore referred to. Mr. Farrow called frequently and urged me considerably until after the contract was signed between himself and the Eclipse Company and the receipt by him of a check for one thousand dollars. After he received the check I succeeded with difficulty in getting Mr. Farrow to my office during the pendency of his applications before the Patent Office, but he did call there a number of times and made inquiries with reference to the progress made, and questioned me with reference to what amendments had been made, the general condition of the applications, etc. I always furnished him with full information concerning my amendments of the cases with reference to drawings and claims. During one of his visits to my office I inquired whether or not he had made up and used any of the modifications referred to in his original application. He answered that he had not made up any except the one I had seen on the machine at the company's branch store in this city, and that he did not consider the modifications as of much importance; but since he considered this particular construction the most important, he was desirous of introducing it to the public as rapidly as possible. In order to convey to Mr. Farrow information concerning his applications for patents pending in the Patent Office, both during and prior to the declaration of the above named interferences, I often sent my clerks to the machine-shop in which Mr.
Farrow worked, requesting him to call at my office, or to let
254 me know when he would call, as I desired to consult with him and talk with him fully concerning the condition and the further prosecution of his inventions before the Patent Office. After Mr. Farrow was informed that his defeat was certain in the interference in which Mr. Little was involved, and after several interviews with me at my office, during which I informed him as to the exact status of the interferences numbered 19,093 and 19,094, especially after the dates set up by Mr. Phillips, he did not appear to care to call at my office at all, and showed no further interest whatever. Mr. Farrow a number of times informed my clerk that he would call at a certain time at my office, and failed to do so. In this way he disappointed me a number of times.

Shortly after the interferences above referred to were decided, I failed to see Mr. Farrow until one day I met him in Mr. Emory's room in the U. S. Patent Office in company with Mr. Doolittle, and I observed that he and Mr. Doolittle were looking over some of the papers in the interferences above referred to. I did not see anything more of Mr. Farrow until after I read in the court news of one of our daily papers that a suit had been brought by him against the Eclipse Bicycle Company. I was always ready to furnish Mr. Farrow with such information as he desired concerning his pending applications, and did furnish him with the information concerning my amendments and the objections made on the part of the Patent Office examiner, and kept him fully posted concerning the prosecution of his applications.

The file records of the Farrow cases in my office were always open for inspection by Mr. Farrow; and as I stated before, I
255 sent for him in order to impart information, and when he called I was always ready to impart information, which I did, concerning the condition of his cases, the preparation of amendments thereto, and the prosecution thereof. I never at any time refused him access to any of the papers in his cases. The only question on which anyone applied to me on behalf of Farrow in regard to any of the Farrow matters was an occasion after this suit was commenced, when a gentleman introducing himself as Mr. Earle (the solicitor or counsel for Mr. Farrow in this suit) came to my office and asked me for information concerning the foreign patents of Farrow. I answered those questions which he asked me so far as I had information in my possession by which to answer them. Certain questions which he asked me I could not answer because I had not the information to do so. I have never at any time refused information or access to the files in the Farrow cases to anyone having recognizable authority from Mr. Farrow to make inquiries about them. Mr. Farrow furnished me with power of attorney to prosecute his invention before the Patent Office of his own free will and accord, and I understood he was eager to furnish me with such power; and during the pendency of his applications, I understood, since I represented both sides, that I was Mr. Farrow's attorney as well as the attorney of the Eclipse Bicycle Company.

I have examined Exhibits 23, 24, 33, 35, 36, 38, 39, 40, 42, 43, 44, 45, 46, 48 and 52. I have made careful search in my office and in all places where the said letters should be and I have not found any of the said letters. I remember receiving these letters.

256 Among the patents obtained by said Mr. Morrow and relating to bicycles, are 485,350, November 1st, 1892, for a crank arm and shaft; 507,325, October 24th, 1893, for a pneumatic tire; 524,068, August 7, 1894, for a bicycle saddle, copies of these patents are hereto attached.

JAMES L. SKIDMORE.

Subscribed and sworn to before me, this tenth day of October, A. D., 1900.

[SEAL.]

LUCAS P. LOVING,
Notary Public, D. C.

(No Model.)

A. P. MORROW.

PNEUMATIC TIRE.

No. 507,325. Patented Oct. 24, 1893.

Fig. 1.

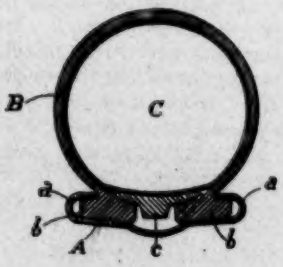
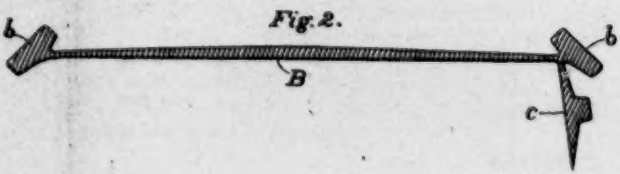


Fig. 2.



Witnesses
Jas. L. Smith
Frank P. Allarlow.

Inventor
Alexander P. Morrow
By Chas. F. Benjamin
His Attorney

UNITED STATES PATENT OFFICE.

ALEXANDER P. MORROW, OF NEW BRIGHTON, ASSIGNOR OF ONE-HALF TO ARMON H. FULTON, OF BEAVER FALLS, PENNSYLVANIA.

PNEUMATIC TIRE.

SPECIFICATION forming part of Letters Patent No. 507,295, dated October 24, 1893.

Application filed July 20, 1893. Serial No. 481,045. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER P. MORROW, a citizen of the United States, residing at New Brighton, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Pneumatic Tires; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to pneumatic tires for vehicles and especially to those appertaining to velocipedes. Its object is to seat a pneumatic tire firmly within the rim of a wheel.

In the accompanying drawings, wherein like letters represent like parts, Figure 1 is a vertical cross section of a pneumatic tire showing the invention, and Fig. 2 a cross section of the tire detached from its wheel and spread out to show the construction and configuration of the tire, as made in one piece.

A represents the metallic rim of the wheel, its edges curved inward, substantially as shown at *a* in the first figure of the drawings.

B is the tire, or outer casing, of any suitable, flexible material.

C is the air-tight, flexible tube, lining the tire.

The two side edges of the long strip of material that constitutes the tire B are formed into a pair of thick, rectangular shoulders, *b*, fitting into the curves of the wheel rim. Projected obliquely from and along the angle formed at the junction of the interior face of the web of the tire with either of its shoulders is a key, *c*, made in one piece with the tire and the tire shoulders, and the center part formed in wedge shape, as shown.

The air-tight tube being collapsed, the tire is fitted by its shoulders into the rim of the wheel. The key falls into position between the proximate surfaces of the two shoulders. Then the tube is inflated through its valve, and the shoulders thereby caused to press upon the key and so lock the tire in place. To displace the tire, the air is let out of the tube sufficiently to loosen the key and permit the shoulders to be removed from their seats in the rim.

I claim—

The combination in a wheel tire of the rim, having the inwardly curved edges; the flexible casing, having the shoulders formed along the two side edges thereof and further provided with the wedge shaped key formed integrally with said casing, and the air-tight flexible tube lining said casing; all substantially as and for the purposes described.

In testimony whereof I affix my signature in presence of two witnesses.

ALEXANDER P. MORROW.

Witnesses:
C. C. ROBINSON,
E. C. CARTER.

(No Model.)

A. P. MORROW.

CRANK ARM AND SHAFT.

No. 485,350. Patented Nov. 1, 1892.

Fig. 1.

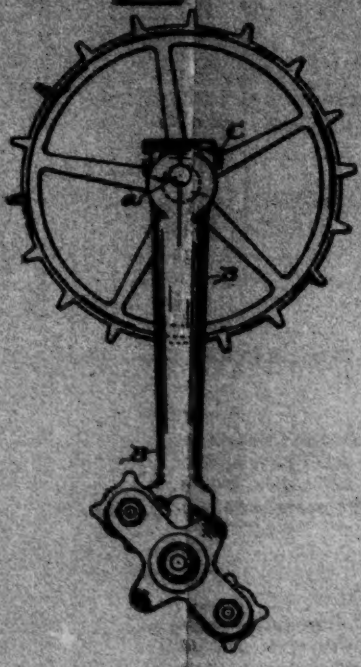


Fig. 2.

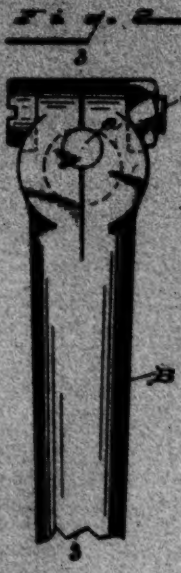


Fig. 3.

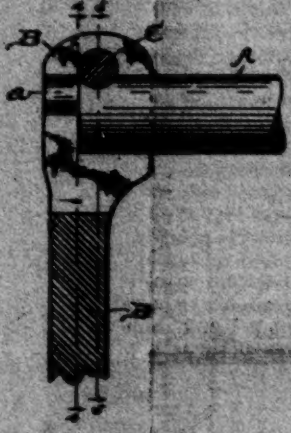


Fig. 4.



Fig. 5.



WITNESSES:

F. W. Warner

J. A. Walsh

INVENTOR

Alexander P. Morrow,

per Chester P. Bradford,

ATTORNEY.

UNITED STATES PATENT OFFICE.

ALEXANDER P. MORROW, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO THE ECLIPSE BICYCLE COMPANY, OF BEAVER FALLS, PENNSYLVANIA.

CRANK ARM AND SHAFT.

SPECIFICATION forming part of Letters Patent No. 485,350, dated November 1, 1892.

Application filed August 30, 1892. Serial No. 444,506. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER P. MORROW, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Crank Arms and Shafts, of which the following is a specification.

The object of my said invention is to provide an improved means of uniting a crank arm to a shaft, which shall be both inexpensive to manufacture and secure in its operation.

Said invention will be first fully described, and then pointed out in the claims.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a front elevation of a crank arm and shaft embodying my said invention as applied to a bicycle-pedal; Fig. 2, a similar view of a fragment of the arm and shaft separately on an enlarged scale; Fig. 3, a sectional view on the dotted line 3 3 in Fig. 2; and Figs. 4 and 5, sectional views on the dotted lines 4 4 and 5 5, respectively, in Fig. 3.

In said drawings the portions marked A represent the crank-shaft, B the crank-arm, and C a bolt by which the two are clamped together.

The shaft A is an ordinary shaft, except that it has an eccentrically-set projection *a* on its end, behind which is preferably a transverse groove for the bolt.

The crank-arm B is slitted where it passes over the crank-shaft and is bored to fit the form of crank-shaft just described—that is, a socket is bored therein to receive the end of the shaft and a hole smaller in diameter than the socket is continued through to receive the eccentric projection. Another hole is bored transversely of these holes to receive the bolt, and this last-mentioned hole should intersect the boundary-line of the shaft hole or socket.

The bolt C is an ordinary bolt and passes through the hole in the end of the crank-arm, and one side of said bolt also fits into the groove formed to receive it in the crank-shaft.

The operation is as follows: The crank-arm is placed on the crank-shaft, as shown. This is permitted to be easily done by the slitted form of the arm. The bolt is then passed through its hole and tightened up, which draws the two sides of the crank-arm toward each other, clamping them tightly onto the shaft, and also by means of the groove in said shaft serves as a pin, which holds it on and to position. The eccentric projection prevents any possibility of one part turning on the other. By means of this construction the whole device is enabled to be made by turning and boring and requires no square or flat fitting or the forming of any keyways, while at the same time the parts are attached together with more than usual security.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a crank-shaft having an eccentric projection and a crank-arm having a socket to receive the end of the shaft and a deeper socket or hole to receive said projection.

2. The combination of a crank-shaft having an eccentric projection and a crank-arm slitted at the end and provided with a socket for the end of the shaft and a deeper socket or hole for said projection and a bolt whereby the two parts of the arm may be clamped tightly onto the shaft.

3. The combination of the crank-shaft having a transverse groove, the crank-arm slitted at the end and provided with a socket or hole to receive the shaft, and a hole transversely thereof and intersecting said socket or hole to receive a connecting-bolt, a groove in the shaft corresponding to said transverse hole, and a bolt passing through the same, which thus serves both as a pin to prevent longitudinal movement and as a clamp-bolt to clamp the arm firmly onto the shaft, substantially as set forth.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 23d day of August, A. D. 1892.

ALEXANDER P. MORROW. [L. S.]

Witnesses:
H. H. FULTON,
CHESTER BRADFORD.

(No Model.)

A. P. MORROW.

BICYCLE SADDLE.

No. 524,068. Patented Aug. 7, 1894.

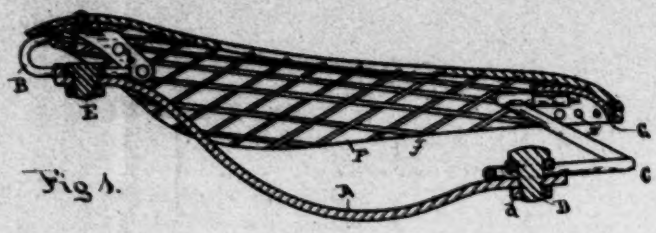


Fig 1.

Fig 2

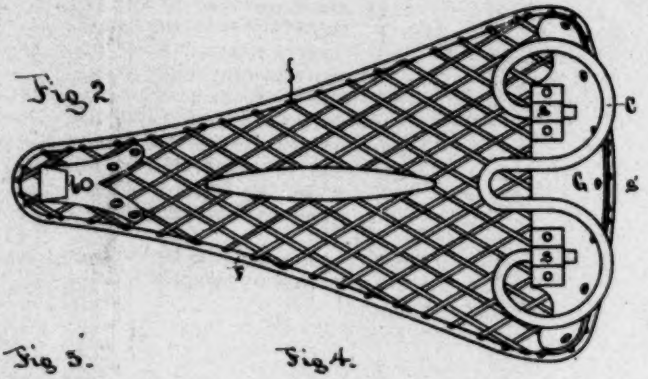


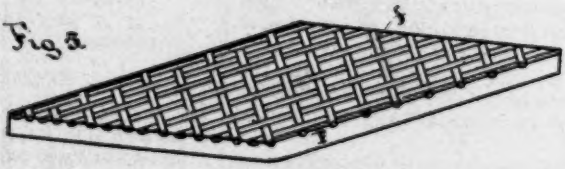
Fig 3.



Fig 4.



Fig 5.



Witnesses

Josiah Laird

J. A. Tatro

Inventor

Alexander P. Morrow

by John. E. Culmer

his Attorney

UNITED STATES PATENT OFFICE.

ALEXANDER P. MORROW, OF NEW BRIGHTON, ASSIGNOR TO THE ECLIPSE BICYCLE COMPANY, OF BEAVER FALLS, PENNSYLVANIA.

BICYCLE-SADDLE.

SPECIFICATION forming part of Letters Patent No. 524,068, dated August 7, 1894.

Application filed September 7, 1893. Serial No. 485,015. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER P. MORROW, a citizen of the United States, residing at New Brighton, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Bicycle-Saddles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to an improved bicycle saddle, and particularly, to the construction of the leather of such saddles with a netting or stiffening web of wire or other material, attached to or embedded wholly or partially within the leather, for the prevention of stretching or distortion of said seat by use.

In the accompanying drawings Figure 1 is a vertical longitudinal sectional view of a bicycle saddle embodying my improvements; Fig. 2, an interior plan view of the same from below; Figs. 3 and 4, vertical sectional views or the clip bolt D and its nut *d*, and Fig. 5 a broken perspective view of a portion of the seat F.

I prepare leather for saddle seats by attaching to or embedding in the flesh side of selected sole leather, as F, a woven net of stiff brass or other metal wire *f*; the leather thus prepared is cut or stamped into the required form for the seat and the netting and leather may be bound at the edges, if desired, although ordinarily this is not required. At the point, or horn, of a seat thus formed, a hook *b* is riveted through the seat and forms a fastening for the coiled spring B. At the rear of the seat F a plate G is made fast within said seat by rivets *g'* passing through said plate and the netting and leather supported thereon. Upon the plate G are riveted smaller plates *g*, *g*, which form sockets to receive the ends of the spring C. A clip E of ordinary form clamps the free end of the coiled spring B to a longitudinal plate spring A by means of its bolt passing through a slot therein, and a clip bolt D fastens the spring G through a similar slot at the other extremity of the longitudinal spring A.

I make the clip bolt D, as shown in Figs. 3 and 4, with a T shaped head having parallel recesses, upon its lower surface, for receiving the parallel ends of the spring C. It will be seen that the clip bolt D, with its nut *d*, form a simple means of straining or adjusting the saddle seat F, upon its longitudinal spring A, as the nut *d* may be loosened with one hand, the seat strained with the other hand and the nut *d* refastened quickly and effectively; also, that the netting *f* attached to the leather F prevents the stretching of said leather, maintains the elasticity of the seat and retains the form as manufactured.

I am aware that "clip bolts" or clamps of the form shown at D, have been known and illustrated before, notably in United States Patent No. 473,493, dated April 26, 1892, and I do not, therefore, claim that particular form of clamp.

I claim as my invention—

1. A bicycle saddle seat having its leather reinforced by a stiff wire or other netting embedded in or made fast to the leather as shown and described.

2. In a bicycle saddle the combination with the leather of the seat, of a netting of wire or other material made fast thereto, whereby the elasticity of the seat is increased, stretching prevented and its form preserved, as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

ALEXANDER P. MORROW.

Witnesses:
C. C. ROBINGSON,
E. C. CARTER.

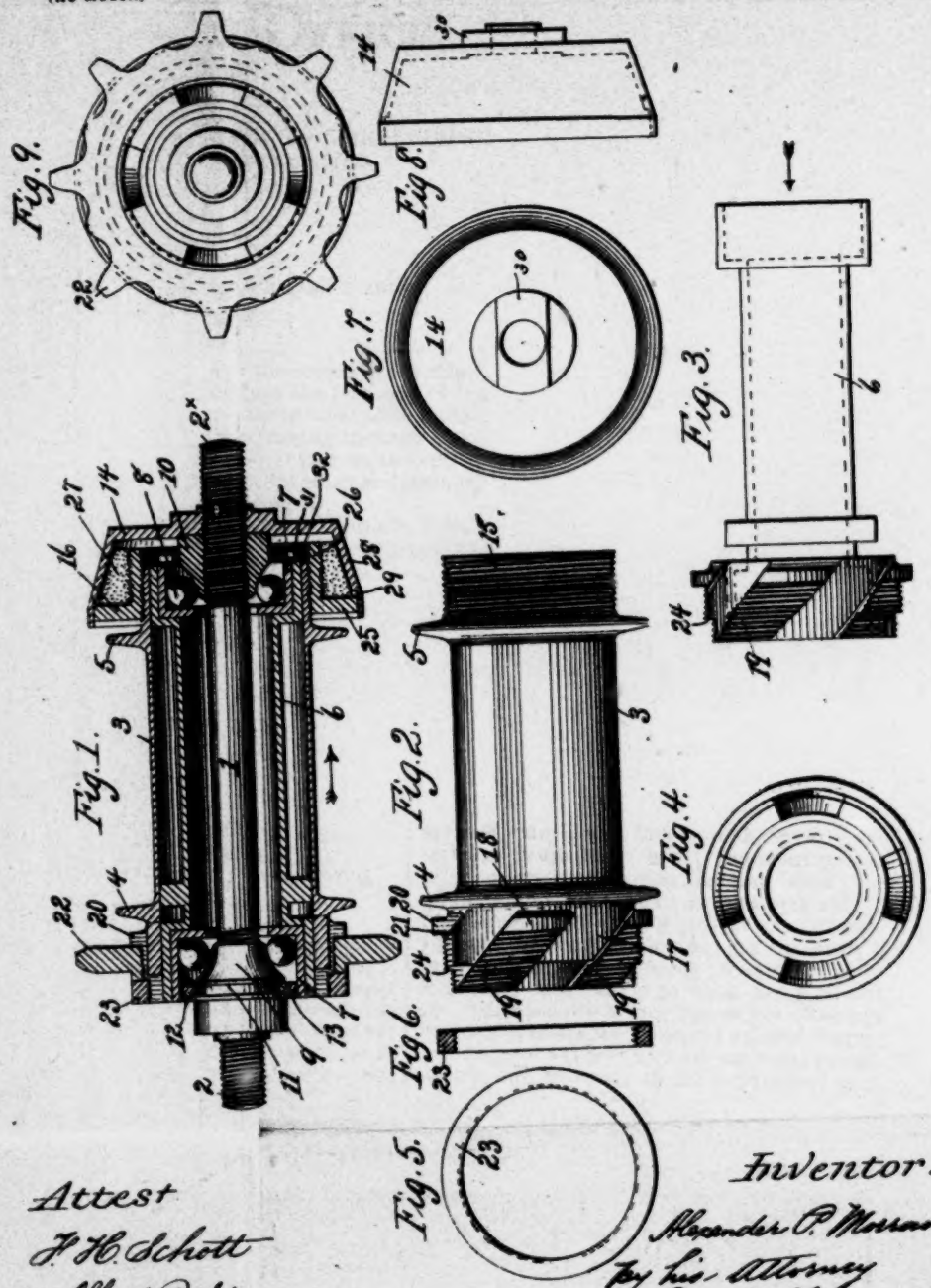
No. 641,983. Patented Jan. 23, 1900.

A. P. MORROW.

BACK PEDALING BRAKE.

(Application filed Aug. 1, 1898. Renewed Nov. 1, 1899.)

(No Model.) 2 Sheets—Sheet 1.



Attest
F. H. Schott
Albert Popkins.

Inventor:
Alexander P. Morrow
By his Attorney
Jas. L. Skidmore.

2 Sheets—Sheet 2

No. 641,983. Patented Jan. 23, 1900.

A. P. MORROW.

BACK PEDALING BRAKE.

(Application filed Aug. 1, 1898. Renewed Nov. 1, 1899.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 13

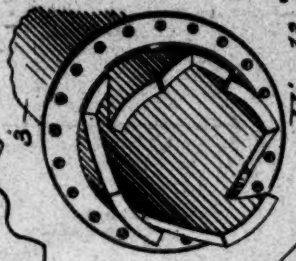


Fig. 14.

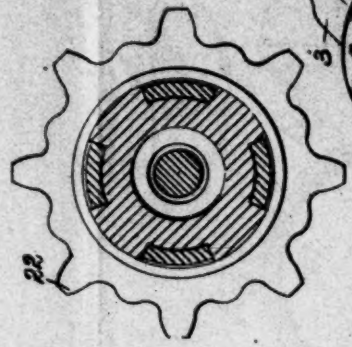


Fig. 12.

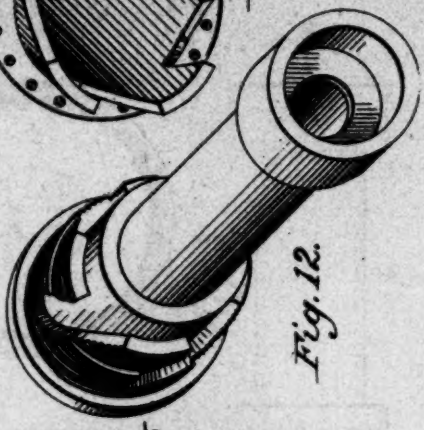


Fig. 10

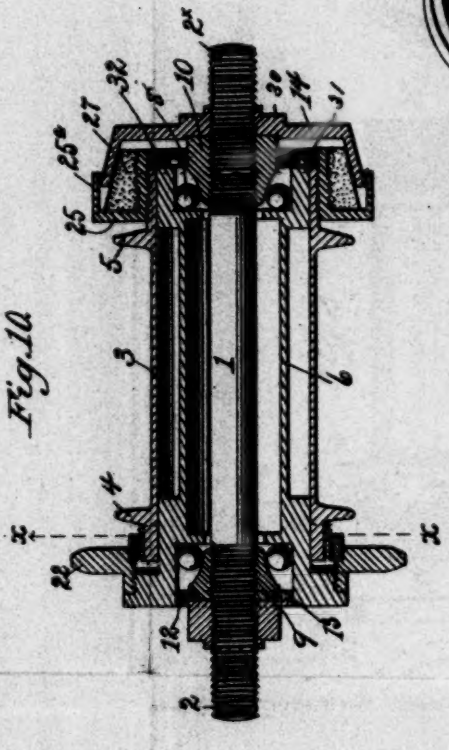
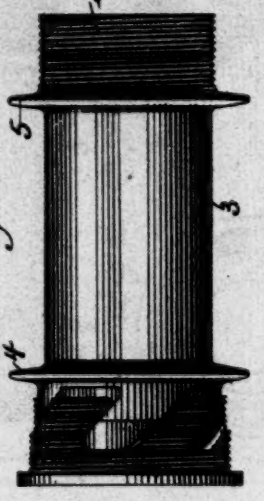


Fig. 11.



Attest:
F. H. Schott
Albert Popkins.

Inventor:
Alexander P. Morrow
by his Attorney
Jas. L. Skidmore.

UNITED STATES PATENT OFFICE.

ALEXANDER P. MORROW, OF ELMIRA, NEW YORK, ASSIGNOR OF ONE-HALF TO HARMON H. FULTON, OF SAME PLACE.

BACK-PEDALING BRAKE.

SPECIFICATION forming part of Letters Patent No. 641,988, dated January 23, 1900.

Application filed August 1, 1898. Renewed November 1, 1899. Serial No. 735,851. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER P. MORROW, a citizen of the United States, residing at Elmira, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Bicycle-Brakes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to brake mechanism for bicycles or like vehicles; and its primary object is to provide novel and effective means for applying braking friction directly to the hub of the driving-wheel of the bicycle in contradistinction to employing a brake-shoe adapted to contact with the wheel-tire, which latter means of braking has been found objectionable, if not impracticable, with wheels equipped with pneumatic tires or other tires the material of which is easily abraded by the wearing contact of a brake-shoe therewith.

A further object of the invention is to avoid the use of brake-levers and to control the brake mechanism from the pedals by what is termed by bicycle-riders "back-pedaling."

The characteristic features of my invention will be fully described hereinafter and defined in the appended claims.

In the accompanying drawings, which constitute a part of this specification, Figure 1 is a central longitudinal section of the hub and axle of a bicycle driving-wheel with my improvements applied thereto. Fig. 2 is a side elevation of the wheel-hub detached and having the movable brake-sleeve arranged therein. Fig. 3 is an elevation of the brake-sleeve detached from the hub. Fig. 4 is an end view of the brake-sleeve looking in the direction of the arrow in Fig. 3. Figs. 5 and 6 are respectively a side elevation and a transverse section of the ring arranged upon the left-hand end of the brake-sleeve. Figs. 7 and 8 are respectively an end view and a side elevation of the cap secured upon the right-hand end of the axle. Fig. 9 is an end elevation of the axle and hub with the sprocket-wheel in place thereon. Fig. 10 is a central longitudinal section of a modified construction of axle, hub, and brake mechanism. Fig. 11 is a side elevation of the hub and brake-sleeve shown in Fig. 10 detached. Fig. 12 is a view in perspective of the brake-sleeve. Fig. 13 is a perspective view of one end of the wheel-hub, and Fig. 14 is a vertical section on the line x x of Fig. 10.

The reference-numeral 1 indicates the axle, threaded at its ends 2 and $2^{\times}$.

3 indicates the tubular hub of the wheel, provided with the usual annular flanges 4 and 5 for the attachment of the spokes. (Not shown.)

The brake-sleeve 6 is arranged within the hub 3 and upon the axle 1, as shown in Fig. 1. Each end of the sleeve 6 is provided with an annular bearing-box 7, within which are supported ball-bearings 8 by means of conical bushings 9 and 10. The bushing 9 is internally threaded to screw upon the threaded end of the axle and is provided with an annular groove 11 and an annular shoulder 12 to receive a packing-ring 13. The conical bushing 10 projects centrally from a cap 14 at the right-hand end of the axle and is also centrally bored and threaded to fit upon the threaded end of the axle.

Referring now especially to Figs. 2, 11, and 13, the hub 3 is provided at one end with an annular extension 15, projecting beyond the flange 5 and screw-threaded to receive the flanged collar 16 of the brake mechanism. The opposite end of the hub 3 is provided with an annular extension 17, formed with a series of spiral slots 18, adapted to receive and interlock with a series of spirally-disposed teeth 19, formed upon the left-hand end of the brake-sleeve 6. An annular collar 20, formed with slots 21, coinciding with the spaces between the teeth 19, serves as a stop for the sprocket-wheel 22, which is held in place by the threaded ring 23. The spiral teeth 19 are screw-threaded for the attachment of the sprocket-wheel and ring 23, and each of said teeth is formed with a shoulder 24, said shoulders all being in the same vertical plane to constitute an annular stop for the retaining-ring 23.

The collar 16, fitting upon the threaded end

15 of the hub 3, comprises a vertical portion or flange 25 and a horizontal tubular portion 26, which latter is threaded both internally and externally, as clearly illustrated in Fig. 1. The internal threads of the collar engage the threads of the end 15 of the hub, and its external threads are provided for the attachment of a conical friction-ring 27, preferably made of indurated fiber or equivalent material and internally threaded to fit upon the collar 16.

The cap 14, which fits upon the threaded end 2^{x} of the axle, is provided with an annular inclined flange 28, extending over the flange 25 of the collar 16 and shouldered at the point 29 to permit a limited play of the hub and to effect the contact of the cap 14 with the friction-ring 27.

The forks of the vehicle-frame (not shown) are secured to the ends of the axle 1 and held by jam-nuts. The outer face of the cap 14 is provided with a squared projection 30, which is embraced by one of the forks of the frame, and upon the threaded end 2^{x} of the axle is secured the mounting-step of the machine.

To secure the balls 8 in place at the right-hand end of the axle, I provide a threaded ring 31, which screws into the collar 16, and a threaded dust-guard ring 32 may be secured within the collar 16 outside of the ring 31, Fig. 1.

The operation of the mechanism above described is as follows: The forward rotary movement of the hub, which is interlocked with the spiral teeth of the brake-sleeve, as above explained, permits the free rotation of the friction-ring 27 within the cam 14; but a backward rotation of the sprocket caused by back-pedaling at once forces the teeth 19 to move along the spiral slots of the hub and forces the hub laterally in the direction of the arrow in Fig. 1, with the result of forcing the friction-ring 27 firmly against the beveled flange of the cap 14 to arrest the rotation of the wheel.

The construction illustrated in Figs. 10, 11, 12, and 14 differs from that already described in the location of the flange 20 at the outer end of the sleeve 6 and in forming said flange without the slots 18 required in the construction shown in Fig. 2. Again, instead of extending the flange 28 of the cap 14 over the flange 25 of the collar 16 I provide said flange 25 with a horizontal extension 25^{a}, which extends over the edge of the flange 25.

It is obvious that the extent of movement of the hub may be nicely adjusted to effect a gradual stopping or slowing of the rotation of the wheel.

Having thus described my invention, what I desire to claim and secure by Letters Patent is—

1. In a bicycle or like vehicle, the combination with a wheel-hub provided at one end with spirally-disposed slots, of a sleeve within the hub enlarged at one end and provided with spiral teeth coöperating with the slots in the hub, and threaded to receive the sprocket-wheel, opposing friction devices on the hub and axle, and means for driving the sleeve.

2. In a bicycle or like vehicle, the combination with the spirally-slotted hub, and a toothed sleeve provided with spirally-disposed teeth, of an internally and externally threaded and flanged collar secured upon the threaded end of the hub, a friction-ring secured upon the collar between the external threads and laterally-projecting flange, and a cap secured upon the axle and provided with a flange adapted to clamp the periphery of said friction-ring.

In testimony whereof I affix my signature in presence of two witnesses.

ALEXANDER P. MORROW.

Witnesses:
ROSS M. LOVELL,
C. A. WHITE.

261 In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
THE ECLIPSE BICYCLE CO. } In Equity. No. 19095.

DISTRICT OF COLUMBIA, *ss:*

John D. Lasley, being duly sworn, says:

I am a resident of the city of Baltimore, Maryland, and am a member of the firm of Lasley Brothers, dealers in cash registers. During the year 1897 I was the manager of the local agency in Washington, D. C., of the Eclipse Bicycle Company. Some time, I think, in May of 1897, Mr. Willard M. Farrow, the complainant in the above entitled suit, came to the local store of the Eclipse Bicycle Company, where I was dealing in bicycles, and showed me a bicycle brake and coasting device. This device had a brake-shoe pivoted upon the frame of the machine, adapted to be pressed against the tire of the rear wheel. A rod connected at one end to the brake-shoe was connected at its other end to a small frame pivoted to one of the side-bars of the lower rear fork of the bicycle, and through this frame passed the upper side of the chain. In this frame was pivoted a dog that was adapted, when the motion of the chain was reversed, to drop into the openings of the chain, and connect the pivoted tilting-frame to the chain, so as to draw the brake-shoe against the tire. In the rear hub of the machine was a clutch which connected the rear sprocket-wheel with the hub of the rear
262 wheel when the bicycle was driven forward, and which, when the sprocket-wheel was stationary, permitted the rear wheel to run on forward. The operation of this device was that when the bicycle was driven forward, the clutch in the rear wheel connected the parts so that the forward driving occurred. When the rider held the pedals of the wheel stationary, the front sprocket, the chain and the rear sprocket-wheel remained stationary, but the bicycle could run on and permit the rider to coast; and when the rider reversed the motion of the chain by back-pedaling, the dog in the tilting-frame engaged the chain and pulled the brake-shoe against the tire of the rear wheel.

I examined and tried this device, and thought favorably of it, and made an agreement with Mr. Farrow for him to manufacture a certain number of these devices for me, and to give me the sole agency for the District of Columbia for said device.

Thereafter, about the middle of May, Mr. Fulton, the president of the Eclipse Bicycle Company, came to Washington and came to the branch store. At this time I called his attention to the Farrow brake and coaster above described, and showed him the wheel equipped with it. Before this time I had not informed Mr. Fulton or any other person connected with the Eclipse Company, about the Farrow device. Mr. Fulton said that he was interested in the de-

vice, and we went together to Mr. Farrow's shop in Washington. We had some talk there about the Eclipse Bicycle Company becoming interested in the Farrow brake; and Mr. Fulton, in my presence, asked Mr. Farrow a number of questions as to when he had produced the device, whether he was the original inventor,
263 and if he knew of anything like it anywhere in the country. Mr. Farrow answered that he had been experimenting with the device for several months, and had only recently completed it; that he was the original inventor, and stated that he had never heard of or seen a coaster brake until he had invented this one, and stated that he was sure that he could get a very broad patent upon it, and would guarantee to do so.

Under the contract that I had made with Mr. Farrow, I had taken perhaps twelve or fifteen orders up to this time; and although Mr. Farrow had promised to deliver the brakes necessary to fill these orders, he had failed to do so, and in fact he had delivered only one brake, although the contract called for prompt delivery. At the first conversation with Mr. Farrow at which Mr. Fulton was present, above mentioned, Mr. Fulton said that on proper terms the Eclipse Bicycle Company would be willing to make the brake on a royalty, and Mr. Farrow agreed to give the company the right to do so on satisfactory payments. I do not remember that the terms of payment were discussed at this interview.

On the following day Mr. Fulton and I went again to Mr. Farrow's shop, and there, after some discussion, reached a preliminary verbal agreement that Farrow would contract with the Eclipse Bicycle Company for the manufacture of the invention, on a royalty basis, and that the company should pay him certain sums that I do not now remember. At this second visit Mr. Farrow said to Mr. Fulton in my presence and hearing that he had a party wait-
264 ing to take up the manufacture of the brake with him who was willing to advance ten thousand dollars; but that he (Farrow) would prefer to deal with the Eclipse Company, as he thought it had better facilities for manufacturing and marketing the brake than a person not engaged in the bicycle business could have. Mr. Farrow pointed to a man standing in the shop, and said: "That's the man," he is the son of Judge somebody whose name I do not remember. The man pointed out was apparently about twenty-three years of age.

Upon the evening of the same day, or on the evening of the next day, Mr. Fulton and I met Mr. Farrow and his attorney, a Mr. Pollard, at the branch store of the company. Mr. Fulton sent for Mr. James L. Skidmore, the patent solicitor of the company, and he also met with the other persons mentioned at the store. I was present throughout the meeting, although I occasionally went out from the room where the others were sitting and attended to other matters in the store.

At this meeting in the evening I remember hearing Mr. Farrow say to Mr. Fulton that he was the original inventor of the device upon the wheel that I had shown to Mr. Fulton, and that he would

guarantee to obtain broad claims upon the device. I remember, that Mr. Pollard, his attorney, said that he wished Mr. Skidmore to take up the further prosecution of the application for a patent on this device, as he (Mr. Pollard) was not an experienced patent solicitor, and that he thought that Mr. Skidmore could do better for Mr. Farrow. Mr. Fulton said that he would be willing to have Mr. Skidmore do the work if Mr. Pollard would not feel hurt at
265 its being taken off his hands; and to this Mr. Farrow assented.

At this meeting Mr. Fulton discussed the terms of the agreement, and Mr. Farrow immediately declined to agree to those terms, and demanded a much larger sum than he had before agreed to take. There was a good deal of talk and Mr. Skidmore advised Mr. Fulton to drop the matter, and Mr. Farrow then returned to his former proposition, which Mr. Fulton accepted. Shortly after this meeting Mr. Fulton left Washington.

I never heard Mr. Farrow or Mr. Pollard speak of any coaster or brake except the one on the wheel that I showed Mr. Fulton. At no time did Mr. Farrow inform me that he had ever shown the device above mentioned to any one before he showed it to me.

At the meeting Mr. Pollard and Mr. Farrow both said that broad claims could be obtained for this invention, because application had been filed for patent upon it, and the Patent Office had acted upon the application, but that nothing in any way serious to it had been developed. It was certainly two months after this meeting that I first became aware of the patent to Stover and Hance, No. 418,142. I remember that in the several talks between Mr. Fulton and Mr. Farrow, Mr. Fulton talked only of the tire-brake device which I had shown to him, and that nothing was said in my presence by Mr. Pollard or by Mr. Farrow concerning any other form of Mr. Farrow's invention, or concerning any other form of brake and coa-ting device for bicycles.

266 My attention has been called to some questions and answers in the deposition of Mr. Farrow, on page thirty-four of the printed transcript of record in this case. The questions and answers are as follows:

Q. In your talk with Mr. Fulton, did you say anything to him about the interest of any other person? A. I mentioned to him that there was another party interested with him and I brought the agreement down when he was in my shop and handed it to him.

Q. You mean the agreement between you and the other party? A. Yes, sir.

Q. He saw that? A. He saw that and had it in his hands.

These statements are false. Mr. Fulton and I, when at Farrow's shop, were always near each other. Any paper that might have been handed to Mr. Fulton, I would have seen immediately. I say positively that Mr. Farrow did not hand to Mr. Fulton any paper whatever at either of the two meetings at Farrow's shop, nor did Farrow make any statement to Mr. Fulton at either of these two meetings at Farrow's shop to the effect that any other person had

any interest in the brake concerning which we visited Farrow. Nor at the meeting at the store was a word said in my hearing to the effect that any one besides Farrow had any interest in the brake and coaster device.

JOHN D. LASLEY.

Subscribed & sworn to before me this 10th day of October, A. D. 1900, at the city of Wash., D. C.

JOHN C. DAVIDSON,
Notary Public, D. C.

[SEAL.]

267 In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
THE ECLIPSE BICYCLE CO. } In Equity. No. 19095.

DISTRICT OF COLUMBIA, ss:

Alexander P. Morrow, being duly sworn, says:

I reside in the city of Elmira, N. Y., and during all the times hereinafter mentioned was the superintendent of The Eclipse Bicycle Company, the defendant in the above-entitled suit. My duties as superintendent at all these times were to superintend all devices constructed in the factory, to manage the workmen, and in general to see that the factory was carried on properly.

I first heard of the device known as the Farrow brake on the 31st day of May, 1897, and can fix the date exactly, because it was Decoration day and the factory was closed. That day the Elmira Athletic Club had a bicycle meet at which there were a number of races, and between the races the Farrow brake was exhibited. I then saw for the first time a bicycle fitted with a coaster and brake combined. This bicycle was equipped with a brake in which a shoe was adapted to act against the rear tire, a rod from said shoe was attached to a frame through which the upper side of the chain ran, and a dog hung in the frame was adapted to drop into the openings in the chain whenever the motion of the chain was reversed; and thus the reversed movement of the chain, acting upon the frame through the rod, pulled the brake against the tire of the rear wheel. In
268 the hub of the rear wheel was a clutch device by which the socket-wheel engaged the hub when the chain was driven forward; but when the chain was stationary, the wheel could still revolve forward; thus permitting a rider to hold the pedals of the wheel stationary, and to coast without movement of the feet, and upon back-pedaling to set the brake against the rear tire. This wheel was then known in the factory as having attached to it a Farrow brake; and I identify this brake as being the same shown in the drawings in the printed record in this case, now before me, on the pages marked "page 230" and "page 231."

I received orders from Mr. Fulton to proceed to prepare for manufacturing it. I had made some patterns for the chain-guide and for the brake-lever to be cast in brass, as a mere temporary expedient, in order to hurry out brakes for sample bicycles for our travelling men, intending thereafter to construct them of steel instead of brass, as brass was not sufficiently strong for bicycles when in actual use. For the manufacture of this and other parts, special jigs and special tools were necessary, if any considerable number of the devices were to be manufactured. The bicycle season for that year was so nearly over that I did not have time to produce the necessary special tools, jigs and dies for the manufacture of these parts, and hence they were manufactured in part of brass, as in the machine that I saw, the fittings were of brass.

According to the best of my recollection, it was not until the first or middle of July, 1897, that the temporary tools were made and the parts received consisting of certain drop-forgings; and
269 wheels manufactured at the Eclipse factory and equipped with the Farrow brake, could not have been made before some time in July. I endeavored, as superintendent, to manufacture the Farrow brakes in the best manner that the circumstances permitted; but the device, in my opinion, contained a serious defect, in that the chain had to run through a frame piece which could not be very loose about the chain, and consequently lateral and vertical oscillations of the chain caused it to strike against the sides and top and bottom of the frame, and cause a constant noise and rattling. The dog that was employed to engage with the chain also produced some of this noise, as it had to hang loose in the frame in order to engage the chain promptly when the motion of the chain was reversed. This defect, in my experience in the manufacture of bicycles, was a serious one. Noise in the running mechanism of a bicycle means friction, and bicycle riders are very sensitive to noises in any wheel. It is a common practice of purchasers of wheels to "spin" the wheel at the time of examining it; and if the least noise is heard in the operation of the wheel, to make objection on that account. It was my opinion when I first saw and tested the Farrow device that on account of this noise it could not be a successfully selling machine.

Prior to my seeing this first Farrow brake, I had invented, and had on August 1st, 1896, filed in the United States Patent Office an application for a patent upon, a back-pedaling brake; but this back-pedaling brake did not have as a part of its mechanism a coasting clutch such as Farrow had in his. This back-pedaling brake is shown in United States letters patent No. 641,983, dated Jan-
270 uary 23rd, 1900. Without disclosing my invention to anyone, I soon proceeded to endeavor to produce a noiseless back-pedaling brake and coaster; and in so doing I designed one, and caused it to be made in the tool-room of the Eclipse bicycle factory, giving instructions to the foreman not to disclose the device to anyone. One Taybor was the man who did the work upon this device. The device produced is that shown in United States letters

patent 611,073, dated September 20th, 1898, and contained in pages 119, 120 and 121 of the printed record in this case.

The brake device in this mechanism operates independently of the chain, as the brake is set, as shown in the drawings of said patent, from a clutch upon the crank-axle operating through levers upon a brake-shoe adapted to engage the tire of the rear wheel. With this device, if the chain should break and drop from the machine, the brake could nevertheless be set upon the rear wheel, and stop the bicycle. With the Farrow device, if the chain should break, the brake-shoe could not be set. My device, shown in said letters patent 611,073, is noiseless, and obviates difficulties which the Farrow device contains.

We stopped making devices of the Farrow form of tire-brake at the same time that we stopped all manufacturing for that season in our factory, viz: some time in September, 1897.

The first time that I ever heard of the Stover and Hance patent was when I saw upon a desk in the office of the factory a letter from Mr. Farrow which spoke of a patent having a "fourth claim" which was very broad. I promptly wrote to Mr. Skidmore to send
271 us a copy of that patent, which he did. I think I called Mr. Fulton's attention to this letter of Mr. Farrow's. I identify the letter which I then saw, and to which I have just been referring, as the letter from Farrow of July 30th, Exhibit 37.

I never saw or heard anything about Mr. Farrow, except that the wheel above mentioned was called a wheel equipped with a Farrow brake. I am not an officer of the company, and have no part in the direction of its affairs except as superintendent of the factory. I never knew anything about the Farrow contract, involved in this suit, until within the last six months. I had heard before that time, however, that Mr. Farrow, after whom the brake that I have mentioned was named, had received money from the company on account of it; but I knew nothing whatever of the terms of the contract.

For many years I have been an inventor, and have obtained patents on numerous devices. My inventions within the last eight or nine years have mainly related to bicycles, for the reason that my constant business has been that of bicycle manufacturing. Prior to June 5th, 1897, which I am informed is the date of the contract with Farrow involved in this suit, I had invented numerous devices beside the back-pedalling brake above mentioned, including a hub and spoke fastener, a crank fastener, a bicycle saddle, a pneumatic tire, a pedal and other inventions.

Up to the time I saw the Farrow tire-brake in May, 1897, as above mentioned, I had never seen a coasting arrangement upon a bicycle, and had never seen a combined back-pedaling brake and coasting device; nor had I up to that time ever seen any description
272 of a coasting device for bicycles or of a combined back-pedaling brake and coaster. The Farrow device seen by me in May, 1897, gave me the suggestion of the desirability of the use of a coasting device in connection with a back-pedaling brake; and with that

suggestion in my mind, I designed and produced the brake shown in my patent No. 611,072.

My device set forth in my patent No. 611,073, is much more like the device set forth in the Stover and Hance patent than the Farrow device is. In fact, all the main ideas and much of the construction of the device shown in my said patent is that shown in the Stover and Hance patent, of which latter patent I was entirely ignorant until some time after my application for said letters patent was filed. This application was filed July 19th, 1897.

My deposition given in this case, which appears in the printed record thereof, page 23 and following pages, was given under the following circumstances: I was subpœnaed or in some way notified to attend before somebody to give my testimony. I was not informed before I began to give my testimony as to what was the controversy I was testifying in, nor did I know at that time anything about the subject matter of this litigation. At the time I gave this testimony I knew nothing whatsoever concerning the contract made with Farrow, and which is involved in this suit, except merely the fact that the company had paid something to Farrow for his brake and coaster. When the testimony was given I knew that there were two lawyers in the room, but I did not know which lawyer was the attorney of the company and which lawyer was the attorney of
273 the opposing party. I had had no opportunity, by examination of letters or otherwise, to refresh my recollection as to the matters concerning which I was examined.

I have just read over my deposition, and I find that my statements therein are true throughout, and have no desire to change them; but my recollection at the present time is more specific by reason of having read a number of the exhibits attached to the affidavit of Mr. H. H. Fulton in this matter.

The invention which was embodied in the patent to me No. 611,073, was conceived by me without any suggestion from Mr. Fulton or any other person connected with the Eclipse Company. It originated wholly with myself. Nor did I have any suggestion from Mr. Fulton or anyone else that I should produce any back-pedaling brake or any coasting device, or any device of an analagous character, at any of the times mentioned in this affidavit. The charge that I got up the invention in question so as to enable the Eclipse Company to evade its contract with Mr. Farrow is without the slightest foundation in fact. I not only invented the coaster and brake but had it made and put on a bicycle before any of the officers of the Eclipse Bicycle Co. knew anything about it, and when I first showed it to Mr. Fulton, he said to me, "Why did you not tell me about this before"? and I said to him that I wanted to give him a little surprise.

ALEXANDER P. MORROW.

Subscribed and sworn to before me this 9th day of October, A. D. 1900.

LUCAS P. LOVING,
[SEAL.] *Notary Public, D. C.*

274 STATE OF NEW YORK, } ss:
County of Chemung, }

Leroy Tabor, being duly sworn, says:

From the first of May, 1897, to the first of March, 1898, I was the foreman in the tool-room of the factory of the Eclipse Bicycle Company in the city of Elmira, N. Y. My superior was Mr. Alexander P. Morrow. I well remember the tire brake produced by Mr. Morrow, consisting substantially of a clutch on the driving axle of the bicycle operating a short-arm lever that connected with another lever upon a brake-arm having a shoe to press against the tire of the rear wheel. In the rear hub was a clutch between the rear sprocket-wheel and the hub of the wheel, permitting the rider to coast when the pedals of the machine were held stationary. Upon back-pedaling the brake would be set against the rear tire. This device was first explained to me by Mr. Morrow on a date which I cannot now fix exactly, but which was about the 9th day of June, 1897. The device is shown in U. S. letters patent No. 611,073, dated September 20th, 1898.

Mr. Morrow first disclosed this device to me, and at the time he did so he instructed me that I was not to inform anyone concerning it; and he told me that I was to instruct the other workmen in the tool-room that they were not to inform anyone about it, and I did so instruct said workmen. I myself never told anyone about this device until some time after it was completed and actually in operation upon a bicycle; and to the best of my knowledge and
275 belief, none of the workmen in the tool-room informed anyone about the device until it was complete and in operation.

Under Mr. Morrow's specific instructions as to the manufacture of each particular part of said device, I caused an example of the brake and coaster to be made. It was attached to an Eclipse wheel in the tool-room of the factory, and Mr. Morrow took it away to ride it. Some days after the device was complete, and Mr. Morrow had taken it out of the tool-room, I saw Mr. Morrow and Mr. Fulton examining the machine with this brake upon it, and Mr. Fulton's attitude and gestures indicated to me that he was much interested in what Mr. Morrow was stating. I saw this meeting of Mr. Morrow and Mr. Fulton through one of the windows of the tool-room. Before this meeting of Mr. Morrow and Mr. Fulton I had never disclosed anything about the device to anyone, except to the workmen who were to manufacture the parts under me.

LEROY TABOR.

Subscribed and sworn to before me, F. E. Oliver, a notary public in and for the county of Chemung and State of New York, in said county and State, this 10th day of October, A. D. 1900.

[L. S.] F. E. OLIVER,
Notary Public.

276 In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
THE ECLIPSE BICYCLE COMPANY. } In Equity. No. 19095.

DISTRICT OF COLUMBIA, ss:

I, Douglass S. Mackall, being first duly sworn do upon oath depose and say: That I am a member of the law firm of Mackall & Maedel, of Washington, D. C. That during the latter part of February, 1898, Mr. J. D. Lasley, the then manager of the Washington branch of the Eclipse Bicycle Company placed in my hands the subpœna upon the filing of the original bill in this cause, and asked me to attend to the matter, stating at the time that Mr. James L. Skidmore was the patent attorney for said company, and knew all about the Farrow matter, and that I should get all the information on the subject I desired from him. I procured a copy of the bill filed in the case, and went to Mr. Skidmore's office to confer with him on the subject. Mr. Skidmore promptly informed me that Mr. Farrow's alleged invention of a bicycle brake had been anticipated by prior inventors and that he, Farrow, could not secure a patent covering his alleged invention, and that his application for a patent had been rejected by the Patent Office, and that there was no possibility of his ever securing a patent covering his alleged invention, and that there was a total failure of consideration for the agreement made by the company with Farrow upon which the suit was based.

277 My understanding of the situation derived from conversations with Mr. Skidmore was to the effect that Farrow claimed to be the original inventor of a particular bicycle brake, being the device referred to in these proceedings as the Farrow tire-brake and coaster, and being the same and only device which Farrow himself brought into court and exhibited to the court at the hearing of the case as his alleged invention. I was not conversant with patent matters and relied entirely on the understanding of the matter that I derived from the conversations I had with Mr. Skidmore with respect thereto. I did not see the Farrow applications until they were filed as evidence in the case, and continued under the impression that the said device to which I have referred was the real and only basis of the Farrow suit. I proceeded in the case entirely on this theory, namely that the Farrow suit was based solely on his alleged tire-brake device, to which I have referred, and which he exhibited in court, and which I was assured by Mr. Skidmore the Patent Office records filed in this case would show beyond question to have been anticipated and for which no patent could be secured. I had no conference with any of the officers of the company on the subject of the case until after the Court of Appeals had rendered its opinion, and not then until within the past ten days, during which time Mr. Fulton has been in the city, going over the case with Mr. Worthing-

ton, when for the first time I acquired knowledge of the existence of the various letters and exhibits attached to Mr. Fulton's affidavit (excepting those already on file in the case) and became acquainted with the true facts relating to the case. The result of all of
278 which is that the defendant company by reason of my misunderstanding which occurred in the manner that I have stated as to the extent of the subject-matter of the contest and my ignorance until recently disclosed to me as stated, of the existence of the true facts in the case, has had no opportunity heretofore to present the material facts necessary for the proper determination of the important rights involved.

D. S. MACKALL.

Subscribed and sworn to before me this 11th day of October, 1900.

RUTTLEDGE WILLSON,
[SEAL.] *Notary Public, D. C.*

279 In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
THE ECLIPSE BICYCLE CO. } In Equity. No. 19095.

DISTRICT OF COLUMBIA, ss:

James L. Skidmore, being duly sworn, says:

My deposition, appearing in the printed record in this case, and running from page 39 to page 46 thereof, and from page 62 to page 64 thereof, was never signed by me. After my deposition had been transcribed, I looked it over and found numerous mistakes in reporting my statements. I called the attention of the examiner to some of these, and refused to sign the deposition until it had been corrected. The examiner took the deposition, and I never saw it thereafter. I am informed that it has been filed; but if so, it has been filed without my consent and approval, and without my signature.

I have made careful search in the Patent Office for papers relating to the Farrow brake inventions, and I find, beside the instrument of conveyance to the Eclipse Bicycle Company, (the contract involved in this suit), only an instrument dated December 1st, 1896, from W. Milton Farrow to William W. Cookson. This instrument was recorded in the Patent Office August 19th, 1897, more than two months after the execution of the agreement between Far-
280 row and the Eclipse Company; and I never heard of said instrument or had any suggestion that there was any instrument in existence purporting to convey any interest in any of Farrow's inventions until a still later date.

JAMES L. SKIDMORE.

Subscribed and sworn to before me this eleventh day of October, A. D. 1900.

RUTTLEDGE WILLSON,
Notary Public, D. C.

[SEAL.]

281 In the Supreme Court of the District of Columbia.

WILLARD M. FOWLER
vs.
THE ECLIPSE BICYCLE CO. } No. 19095. Equity.

DISTRICT OF COLUMBIA, *ss:*

F. Walter Brandenburg, being duly sworn deposes and says that I was the examiner who took the depositions in the above entitled cause of James F. Lasley, James L. Skidmore, Edward G. Curtis and Henry P. Doolittle. I remember that after the deposition of Mr. Skidmore was transcribed and put in typewriting, I took it to him for signature and as it was long he requested me to leave it for him in order that he might read it over, thereafter after several visits, I saw him and he said he could not sign it until several corrections, which he indicated in pencil on the deposition, were made; that the corrections thus indicated and suggested by him were actually made by me in the deposition which is now on file; that after making the corrections which Mr. Skidmore himself suggested were necessary before he would sign it, I took the deposition as thus corrected to his office several times to procure his signature thereto but did not find him in and the deposition remained in my office for sometime thereafter; that sometime thereafter, the exact date I cannot now remember, Mr. Henry M. Earle, one of the attorneys in the case telephoned, or had a messenger at the court to telephone me, that the case was on hearing and that he wanted the depositions filed and I immediately filed the same without procuring the signature of Mr. Skidmore to his deposition.

F. WALTER BRANDENBURG.

Subscribed and sworn to before me this 11th day of October, A. D. 1900.

LUCAS P. LOVING,
Notary Public, D. C.

[SEAL.]

282 *Answer to Defendant's Motion.*

Filed October 19, 1900.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
v.
THE ECLIPSE BICYCLE COMPANY. } Equity. No. 19095.

Now comes the complainant in the above-entitled cause, and in answer to the motion of the defendant for leave to amend its answer and take additional testimony submits as follows;

I. Complainant states, in answer to paragraph one of defendant's motion, that the matter therein set forth, if true, defendant was fully cognizant of same at the time this suit was instigated, and his failure to set same up as a part of his defence was, to say the least, gross negligence; but complainant avers that the matter therein set forth is untrue and is contradicted by the testimony of Skidmore. Said Skidmore, on page 40 of the (printed) record, says: "My advice to the company was not to purchase at that time on the strength of what I had disclosed on my search." Complainant respectfully refers to the affidavit of Mr. Brandenburg, who was the examiner before whom Skidmore's testimony was given, which conclusively shows that the desposition of Skidmore was corrected in accordance with his wishes prior to the filing thereof, the affidavit of said Brandenburg being an absolute contradiction of the affidavit of said Skidmore, which is also attached to the motion.

Complainant further states that the affidavit of Fulton, which is attached to defendant's motion, distinctly shows that said Fulton had in his possession all the papers and letters which the defendant now submits, and if same were material to the merits of this cause defendant is guilty of gross negligence in not heretofore producing them; and said Fulton's affidavit further proves that that part of the opinion of the Court of Appeals in reference to his testimony where said court used the following language, "The testimony in the case is remarkably indefinite in some of its facts, but for this indefiniteness the appellee is scarcely responsible. He was compelled to summons the officers and agents of the company to prove portions of his case, and these were, in the main, hostile witnesses interested in the defeat of his claim. The testimony of one or two of these witnesses, notably the president of the company, who was the person who executed the contract of the appellee on behalf of the company, is characterized by conspicuous and studied forgetfulness of many things of interest to the appellee, and some of which certainly could have been recalled without great difficulty," is absolutely true.

II. Paragraph two of defendant's motion contains matter which, if true, was well known to it and its attorneys from the beginning of

this suit, and if same was material or had been so considered by its numerous counsel it could have been offered in evidence in its answer, but complainant avers that same is wholly false, and in support of this averment respectfully refers to his testimony and his affidavit hereto attached and made part of this answer. Complainant further states that Mr. Pollard, referred to in said motion, died several months ago, but subsequent to the rehearing granted defendant, which fact is well known to the defendant, and complainant respectfully submits that to allow the defendant to amend its answer at this stage, to wit, after the decree in the case, which decree is absolutely final in so far as the merits of the case are concerned, and set up virtually new defence, viz., misrepresentation, with intent to defraud, which defence was available to defendant from the beginning, if same were true, which complainant avers under oath, as set forth in his affidavit attached hereto, to be wholly false, and the further fact appearing that the sole witness who complainant could have brought to support his testimony is dead, would be a great injustice.

III & IV. In answering paragraphs three and four complainant respectfully refers to his answer to paragraph one of this motion, and further states that the said Skidmore kept the matter of the execution of the contract open for the express purpose of examining the patent files and records of complainant's application, and complainant respectfully submits that the agreement itself recites that the complainant had two applications, and further the record shows that said paragraph is false, and the affidavits made by said Fulton and Skidmore, in so far as they support the averments in paragraph three and four of motion, are false and by said affiants known to be false, and complainant refers to his affidavit attached hereto in support of his answer to this paragraph, and further the complainant respectfully refers to the opinion of the Court of Appeals, wherein the court says (speaking of the Stover and Hance patent): "Nor does
283 the purchase of this last-mentioned patent by the company seem*ed* to have been made in any better faith, so far as the appellee's rights were concerned, than was the adoption of the Morrow device; that purchase may have been and probably was a reasonable precaution on the part of the company to fortify its position; but it would be absurd to assume that the company was not aware of its existence at the time at which it entered into the contract with Farrow. It was chargeable with notice of its existence, if it did not actually have it, but we are satisfied from the testimony that it had it."

V. Complainant denies that he concealed from the defendant and said Skidmore information concerning the assignment to Cookson, as alleged in paragraph five, and avers that his testimony in relation to said assignment is correct, and complainant further states that he had a perfect right to sell and deliver to the defendant his applications which was the subject of agreement between the defendant and himself; that he had arranged with the said Cookson settling the amount due him partly in cash and partly in an interest in the pro-

ceeds from the contract. Complainant further states that the said Cookson is without any interest whatsoever in the said invention, and the defendant company is the sole owner thereof in accordance with the terms of the contract.

VI. Complainant denies that such a conversation as alleged in paragraph six occurred, and, further answering said paragraph, respectfully refers to his affidavit filed herewith and made and prayed to be read as a part of this answer, and also to the affidavit of his solicitor, Henry M. Earle, which affidavit is attached hereto and prayed to be read as a part of this answer, and complainant further states that as a matter of fact Skidmore refused any information to your complainant relative to the condition of his application.

VII. Complainant, in answer to paragraph seven, states that same is to a certain extent contradicted by evidence given by said Skidmore, but respectfully submits that that portion of the paragraph which states that said Skidmore had no knowledge of the scope of the Stover and Hance patent until attention was called to it by the complainant is false, as complainant in fact had no knowledge of the scope of said Stover and Hance patent and in how far his applications conflicted with same until informed by said Skidmore. Complainant further states that he gave the defendant the benefit of all the knowledge in his possession relative to his applications, and neither misrepresented nor withheld any information from said defendant at any time relative to his applications.

VIII. Complainant, in answer to paragraph eight of the motion, states that he has no information or knowledge as to whether or not the defendant did take out patents in the several foreign countries, as alleged by it, but complainant further says that said company never gave him any information relative thereto or accounted to him therefor in accordance with the terms of the agreement, although repeatedly requested for information concerning his applications for patent, as the record of this case shows, and complainant
284 further states that although he endeavored in every possible way to obtain information from the defendant company prior to filing the present suit and up to the time the opinion was handed down by the Court of Appeals, defendants absolutely refused to give him any information, and he is advised by counsel that this generous tender of information at this late day is made solely with the intent of furthering the purposes of this motion, and that same is now absolutely immaterial to the merits of this case; and, in further answer to that portion of the said paragraph which alleges that complainant's device was impracticable, complainant respectfully refers to that portion of the record containing his testimony and the testimony of one Curtis; also to the letter from Farrow, attached to def't's motion, explaining that the defects complained of were the fault of def'ts.

IX. In answering the ninth paragraph of defendant's motion, complainant avers that if the matter contained therein is true it is wholly immaterial to the merits of this case. Complainant further states that he is informed by counsel, and believes same to be true,

that the allegations in said paragraph are for the purpose of counteracting the affect of the opinion of the Court of Appeals, wherein the court uses the following language: "In fact, if the contention of the appellant in argument before us is correct, that the Farrow invention is dominated by the Stover and Hance patent, there is reason to infer that by its contract with Farrow the company was required to purchase that patent in order to protect the Farrow contract and the Farrow invention," and complainant states that if the allegations in the ninth paragraph are at all material they could only be used to show that the company did buy the Stover and Hance patent to protect the complainant.

X. Complainant, in answer to the tenth paragraph of the motion, respectfully submits that the defendant is charged with notice of the scope of this action, as the pleadings filed in this cause by the complainant state the case with great particularity and in no sense can be termed ambiguous; and in further answer thereto complainant refers to the affidavit of Henry M. Earle, attached to this answer, wherein it is clearly shown that counsel for the defendant were informally apprised by counsel for the complainant of what he deemed to be the scope of this suit and what he claimed for the complainant at the very beginning of the taking of the testimony; and in further answer thereto complainant refers to a letter written by his solicitor, Henry M. Earle, to Mr. Mackall, one of the counsel for the defendant, in the early part of July last; which letter is attached hereto and marked Exhibit "A" and prayed to be considered as a part of the answer to this paragraph. Complainant further states that the contents of the aforesaid letter was discussed with Mr. Mackall in the latter part of June, 1900, more than three months prior to the filing of the motion.

XI. In answer to paragraph eleven of defendant's motion, complainant respectfully refers to the record in this cause, which shows the original bill of complaint was filed February 25th, 1898; that defendant's answer was filed July 25th, 1898, and a supple-
285 mental bill of complaint was filed September 7th, 1898, whereas the testimony of said Fulton and said Morrow was taken at Elmira, New York, November 11, 1898; and plaintiff further states that the answers filed in the cause, one of them being sworn to by the said Fulton, show conclusively that he in fact was aware of the subject-matter of the suit and had ample opportunity to examine any correspondence or data which he or his counsel thought were material to their defence; and in further answer thereto complainant respectfully refers to that portion of his answer to paragraph one which recites the opinion of the Court of Appeals. Reference is also made to the affidavit of Henry M. Earle relative to the knowledge of def't's counsel at Elmira, & calls attention to the fact that counsel, Fulton, Morrow, & all the letters presented here by def't were in the same city.

XII. In answer to the twelfth paragraph of defendant's motion, complainant respectfully submits that although there were two hearings granted in this case, there was no point made in reference

to the deposition of certain witnesses not being signed, and in answer to that portion of the paragraph which states that the said Skidmore declined to sign until certain material changes should be made, complainant refers to the affidavit of Brandenburg, the examiner, which conclusively shows that all changes desired to be made by said Skidmore were made prior to the filing of the deposition, and all changes that were desired to be made by Harry P. Doolittle were made by the examiner prior to the filing of the said deposition. Complainant is advised by counsel that the objection to said testimony from the technical ground that the several witnesses did not sign same comes too late when raised after the decree deciding the merits has been rendered in the cause.

XIII. Complainant respectfully submits that the matter contained in paragraph thirteen of defendant's motion is irrelavent and immaterial to the cause. Defendant is charged with full knowledge of what is purchased, & the attempt now to lead the court into a labyrinth of patent questions based largely on technical differences in various mechanical contrivances produces for consideration matter entirely foreign to the equities of this case, as formerly on two occasions pointed out by this honorable court and conclusively sustained by the Court of Appeals.

In further answer to said motion, complainants submits the following:

1st. That this cause, based on pleadings under oath, has been exhaustively presented to and considered by the court on the merits, and that substance of the cause was held to be the agreement, a copy of which was attached to the original bill.

2d. That in the motion under consideration there appears nothing to suggest that the matter now sought to be introduced was not available at the proper time.

3rd. No advantage to the complainant is alleged through surprise or fraud. The pleadings are clear, definite, and specific, and the defendant is chargeable with and shown to have had knowledge of their intent, scope, and design.

286 4th. It would be manifestly unfair to permit the defendant, who has enjoyed the fullest rights and privileges to which any litigant can be entitled, to hinder the rights of the complainant under the decree by now attempting to use the three opinions rendered in this cause to enable discovery of a manner in which its answer can be altered to suit its own purposes.

5th. As the matter contained in the defendant's motion sets forth no grounds that would enable this court to extend its discretionary power for the purpose of affording the extraordinary relief requested, the court is without power to grant said motion. Wherefore complainant prays that same be dismissed with costs.

HENRY M. EARLE,
JOHN C. GITTINGS,
Solicitors for Complainant.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
v.
THE ECLIPSE BICYCLE COMPANY. } In Equity. No. 19095.

DISTRICT OF COLUMBIA, ss:

Willard M. Farrow, being duly sworn, deposes and says that he is a resident of the District of Columbia and the plaintiff in the above-entitled cause; that at the time that Mr. Fulton appeared at his office he had never seen nor communicated with him in any way; that the negotiations were opened, and that Mr. Fulton was in great haste to have them completed; that he discussed the matter during his first visit the entire morning, and on the following morning he returned and renewed the negotiations and insisted on deponent taking luncheon with him at the Shoreham hotel in order that they may further discuss the matter, and that the said Fulton invited your deponent to come that night to the branch office of the Eclipse bicycle store; that your deponent realized that Mr. Fulton was a man of affairs and wide experience, and realizing that he (your deponent) was of less experience in such matters, he desired to take more time for consideration, but finally, when he accepted the offer of Mr. Fulton, he became anxious to have it closed and the money paid, for the reason that the said Fulton being unknown to him he was unwilling to take any chances of delay, as it was extremely desirable to place his invention on the market at an early date.

Further, deponent says that he did have negotiations with another party for the exploiting of his invention with the sum of ten thousand dollars ($10,000.00), and that he brought this matter to the attention of Mr. Fulton at a time when a representative of the parties, namely, one Pugh, was present in his shop, but that Mr. Fulton stated that he was unwise to sell his invention outright, and that he would make much more money by selling it to a company such as had a factory in which to manufacture it at once, and who
287 could place it on their own bicycles, and that these are the inducements which Mr. Fulton offered and which your deponent mentions in the testimony in this case. Deponent denies positively that any suggestion as to the advantages possessed by the Eclipse Company in manufacturing and selling this device emanated from him. Further, deponent states that in order to meet the expenses of obtaining a patent on his invention he obtained cash from an acquaintance named Cookson, whom he secured by giving him an assignment for an interest in the same; that the said Farrow had a perfect right to sell and deliver the said device as he did, and that he arranged with the said Cookson, settling the amount due him partly in cash and partly in an interest in the proceeds from the contract; that the said Cookson is without any interest whatsoever

in the said invention, and the Eclipse Company is the sole owner thereof in accordance with the terms of the contract; that if it is desired the said Farrow will obtain from the said Cookson such papers showing the above that the defendant to this action may desire. Further, in this action, deponent states that in his testimony, as appears on page 34 of the printed transcript of record in this case, he was unaware of the reason why counsel asked him if he had informed Mr. Fulton that any other person had an interest in said invention, but in reply to the question he stated that he so informed Mr. Fulton, and that he referred to said assignment to Cookson, and deponent now reiterates the statement that he showed this agreement to Mr. Fulton, who dismissed it with a statement that he did not care anything about it, as he was dealing only with Mr. Farrow, whom he expected to do what was right. Deponent further states that it is absolutely untrue that Mr. Pollard asked to be relieved of the work on the patents; that he had previously procured letters patent for your deponent with great success, and that deponent explained to him the fact that he was selling his applications, and that the purchaser had there own representative here, and that, as he and Mr. Pollard were friends, the matter ended, and that Mr. Pollard stated that he would turn the entire business over to Mr. Skidmore. Deponent states further that Mr. Pollard died within the past year, and that owing to the fact that the matters set up by the defendant in relation to this subject comes at a time when it is impossible for him to produce further testimony as to this.

Deponent further states that he never appointed Mr. Skidmore "his" attorney, as alleged; that Mr. Skidmore was aware that deponent had sold his applications, and that he had been requested to withdraw his attorney from the further prosecution of the patents and to give the necessary information to the attorney for the purchaser; that Mr. Skidmore was in no sense his representative except so far as he may have been so under the terms of the contract between deponent and the Eclipse Company, and that deponent is not responsible for any fees or disbursements due the said Skidmore; that on all occasions, whenever requested so to do, he called at the office of the said Skidmore to give him such information as was possible in relation to these matters, and that the said
288 Skidmore paid the personal expenses of the said Farrow when he requested him to go to the various consulates for the purpose of having the several papers executed, and that between the time that the agreement was prepared and the money was paid and the contract consummated he had several conversations with the said Skidmore relative to the Stover and Hance invention, and that said Skidmore advised him that it did not affect in any way *with* his applications, and that the said Skidmore purposely delayed closing the contract in order that he may have the fullest opportunity to search the records of the Patent Office for any patent that would conflict with the invention that he had sold.

Deponent denies positively that he ever failed to comply with any request of the said Skidmore as to talk to him about this patent

or give him any information or assistance when requested so to do, but, to the contrary, he was extremely anxious to obtain information and do anything that would help in the prosecution of his applications, but deponent states that for some little time before his suit was filed he was unable to obtain any information of any importance, and that he concluded, from the apparent disposition of Mr. Skidmore and those in his office, that there was some reason why he did not want to see him, and deponent positively states that at the time when he saw Mr. Skidmore in Mr. Emery's room at the Patent Office that, although Mr. Skidmore saw that he was looking over the papers in this matter, he made no offer of any assistance, and that it was subsequent to the date of the filing of this suit.

WILLARD M. FARROW.

Sworn and subscribed to before me this — day of October, 1900.

JOHN R. SHIELDS,

[SEAL.] *Notary Public.*

On this 15th day of October, 1900, before me, a notary public in and for the county of New York, personally appeared Henry M. Earle, who, being duly sworn, deposes and says that he is a member of the bar of the District of Columbia and the solicitor of the complainant in the above-entitled action and has read the motion therein filed on the — day of October, 1900, and all the papers thereto attached; that on the — day of ——, 189–, deponent, with Mr. Skidmore and Douglas Mackall, Esq., the solicitor for the defendant, went to the house of W. Milton Farrow, in East Washington, for the purpose of taking his testimony; that deponent, with Messrs. Mackall & Skidmore, returned to Mr. Mackall's office in the car, and during that time engaged in conversation concerning the scope and intent of this action as same appeared by the bill therein filed. Mr. Mackall stated that he had that day been informed by Mr. Skidmore that the amount possible to recover was very small, as the company had made less than one hundred Farrow brakes; whereupon I stated that such was, no doubt, the case, but that we claimed an interest in the others that they were making. This led to a prolonged friendly discussion on the possibilities of the issue, and in which de-
289 ponent recited the grounds of the action, defended the object of the bill, but, partly in a joking way, accused his client of bad faith, and mentioned the analogy of the case to that of Milton *vs.* Kingsley. At a later date the deponent went to the office of Mr. Mackall (then in the Fendall building) relative to a stipulation concerning further testimony; whereupon a further discussion as to the case, and one such as is not unusual between opposing counsel, took place, and deponent learned that said Mackall had become familiar with the case of Milton *vs.* Kingsley, and he remarked that no court would consider the question longer than a very brief period. Deponent was several times by said Mackall informed, when deponent wished to arrange dates for taking testimony, that he (Mackall) was merely the local counsel for the Eclipse Company, and that he would

refer the various matters to it for direction, and that whether or not he would examine witnesses here or argue the case he did not know.

That deponent went to Elmira, New York, for the purpose of conducting the testimony; that there he met Mr. Collin, of the firm of Collin & Stanchfield, attorneys; that while waiting for Mr. Fulton and Mr. Morrow (who came together on bicycles) said Collin engaged in a friendly conversation with deponent that evidenced close familiarity with the purpose of the suit and the details of the pleadings, but suggested that Washington courts had some original ideas if the contention could be sustained. Mr. Morrow was present and in the same room during the time Mr. Fulton testified and heard the testimony regarding the contract, etc., knowledge of existence of which he now states he only recently obtained.

Deponent states further that at the time of bringing this suit he called on Mr. Skidmore, explained the object and intention relative to same, and requested information as to the patents, but that Mr. Skidmore politely declined to offer any information; that no offer was ever so made concerning the patents by any of the attorneys of the Eclipse Company, although an amended bill setting up the injustice to Farrow resulting from his difficulty in protecting his patent rights; further, that in reply to a letter to Mr. Skidmore relative to this subject deponent was informed that said Skidmore could give no further information. A letter to that effect is hereto attached, marked Exhibit "A;" that he made every effort to obtain information from the United States Patent Office, but could not do so under the rule, as per letter hereto attached marked Exhibit "B." Deponent further states that some months prior to his instituting this suit he wrote a letter to the Eclipse Bicycle Company, a copy of which is hereto attached, marked Exhibit "C," but that no reply was ever received either by him or by Farrow to said letter. Deponent further states that prior to the first hearing of this cause he entered into a stipulation, same being hereto attached, marked Exhibit "D," with the attorneys for the defendant, in which they agreed to produce all books and papers necessary if an accounting was ordered, which stipulation was entered into after a full discussion of the scope of the plaintiff's pleadings, and it was understood at the time that the accounting, if the decision was in favor of the plaintiff, would include all devices made by the Eclipse Company containing
290 the principle involved according to the description of the Farrows device as per his application for letters patent.

HENRY M. EARLE.

Sworn to and subscribed before me this 15 day of October, 1900.

JOHN J. LORDAN,

[SEAL.] *Notary Public, New York County.*

"EXHIBIT A."

Offices of Jas. L. Skidmore, Atlantic building.

WASHINGTON, D. C., *Feb'y* 21, 1898.

Mr. Henry M. Earle, # 326 4½ Str. N. W., city.

DEAR SIR: Replying to your favor received today, I beg to say that I am unable at this writing to furnish you with any further or more definite information than that imparted to you during our recent oral interview at my office.

Very truly yours, JAS. L. SKIDMORE.

"EXHIBIT B."

A. M. B. S.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *July 29th*, 1898.

Mr. Henry M. Earle, 32 Nassau street, New York, N. Y.

SIR: Your letter of the 23rd inst. has been received.

In reply thereto I am directed by the Commissioner to say that the office cannot correspond with you concerning the application of Farrow, to which you refer—serial number, 600,359—without his written consent.

The office could not refuse to take action in any application pending before it except in accordance with the rules of the Patent Office. Your attention is invited to the marked portions of the enclosed copy of the "Rules of Practice."

Very respectfully, E. V. SHEPARD, *Chief Clerk.*

In reply please refer to letter 93308.

"EXHIBIT C."

Copy.

Henry M. Earle, attorney-at-law, 326 4½ St. N. W., Washijg.

The Eclipse Bicycle Company, Elmira, New York.

GENTLEMEN: Mr. W. M. Farrow has called to see me relative to your letter of the 15th instant, and explains that about a year ago he entered into a contract with you for the sale of a bicycle device

on which you were to pay him a royalty; that you were also
291 to make returns regularly as to the progress of the work, but that he has received from you no report. My information, you will see, is limited but I trust that you will promptly comply with my request to inform me fully as to the interest of Mr. Farrow and as to what disposition, if any, can be made of his claim against you.

It appears from your letter that the arrangement between you and Farrow is virtually of no advantage to either party. I wish to ask, therefore, if there is anything in your agreement to prevent Mr. Farrow from making or disposing of the device, or if you object to his so doing, of course subject to the patent rights of others which you mention.

Mr. Farrow is under the impression that his brake is called the Morrow, having seen your advertisement relative to same. An early answer will be appreciated.

Very truly yours,
(Signed) H. M. E.

"EXHIBIT D."

In the Supreme Court of the District of Columbia.

MILTON W. FARROW
vs.
THE ECLIPSE BICYCLE COMPANY. } In Equity. No. —.

It is hereby stipulated and agreed by and between counsel in above-entitled cause that all matters relating in any way to the accounting prayed for will be postponed pending a decision of the court as to the necessity of such accounting, and in the event that same be ordered the subject will be taken up with the auditor, or in such other manner as may be agreed upon, and no objection shall be imposed to the non-production of any papers, books, or records of the said defendant company at the hearing of this cause, but that same shall be produced if an accounting is ordered.

HENRY M. EARLE,
JOHN C. GITTINGS,
Counsel for Plaintiff.
MACKALL & MAEDEL,
Counsel for Defendant.

JULY 14TH, 1900.

D. S. Mackall, Esq., Columbia building, Washington, D. C.

DEAR MR. MACKALL: Referring to our conversation of some time ago, in which you handed me a report of the Eclipse Bicycle Company on automatic coaster and brakes made and sold under Farrow's applications for patents and letters patent granted to Alexan-

der P. Morrow, No. 611,073, which report show- that 19,002 of these devices were made, it is, of course, apparent that it is the object of the company to construe the decree of the court, which has been affirmed by the Court of Appeals, to mean that you do not have to account to Farrow for any braking and coasting devices other than those which you allege to come under his patents.

292 It would be impossible for me to believe that you are sincere in this contention, unless I am given to understand that you have neither read the decree or the opinion of the Court of Appeals, and, in the interest of possibly saving ourselves some trouble and time, I am going to take the liberty of going into the matter *somewhat as briefly as possible.*

The decree (page 123 of the report) states that Farrow is entitled to receive royalty under the terms of the contract "upon all the *devices* manufactured by the said defendant company, embodying the *invention* mentioned in the applications for letters patent," giving the serial numbers of same, and further royalties upon devices manufactured by said defendant company under letters patent granted to Alexander P. Morrow, No. 611,073. The words *invention* and *device* are exceedingly broad, and, according to Justice Morris and of the terms of the contract, the inventions of Farrow described in the contract "consist in improvements in bicycle and like vehicles pertaining to automatic mechanism for coasting and braking," and as the company agreed to pay Farrow a certain royalty on each *device* to be made by it that should embody the *invention* of Farrow, it must be plain to you that the company agreed to pay Farrow a royalty on all devices which they should make pertaining to automatic mechanism for coasting and braking.

It was held by the courts at each trial that Farrow was not restricted to devices of any particular mechanical construction. The Court of Appeals is emphatic on the point that it made no difference whether the company made Stover & Hance, the Morrow, or the Farrow pattern, and, that being so, the principle on which it is based is clearly applicable to the pattern which the company now claims they are making.

Any device or devices that accomplish the same result as Farrow's has been held by the courts in connection with this suit to be the mechanical equivalent for Farrow's, and the opinion of the Court of Appeals expressly says that your contention that the "Morrow device was *not* a mere equivalent for the Farrow device" is "untenable."

I wish to attract your consideration to the language of the Court of Appeals as follows: "It (the company) had contracted with the appellee with full knowledge of the nature and character of the latter's invention and with reasonable ground to anticipate what is usual in all such cases—that other similar and perhaps even superior devices might be invented and come into use. With that knowledge, and with that anticipation it had deliberately undertaken and bound itself by agreement to manufacture and sell the Farrow device, not in terms, it is true, to the exclusion of all other

devices, but, according to the requirements of the contract, with *due diligence* and by all *proper and legitimate enterprise*, and having so bound itself to the appellee, and having practically shut out the appellee from that field of invention, it was not, therefore, at liberty to relieve itself from liability under the contract by disregarding the invention of the appellee and *substituting therefor the invention of another person*. It cannot be thought that such a contract
293 can be made to depend on the assumption that no other similar device is coming into the market. The company and not the appellee took the risk of new inventions that might be superior to that of the contract."

Would it not seem to you, Brother Mackall, that if the court took the view, as above expressed, of the attempt of the company to use a brake other than that described in the Farrow invention, namely, the Morrow invention, that it would take the same view of your using another device which accomplishes the same purpose, but which is a different patent and of a different mechanical construction? Do your clients contend for an instant that they are carrying out Farrow's contract with "due diligence" and by "all proper and legitimate enterprise" in manufacturing a device embodying the invention of Farrow? Are they not attempting the same identical trick now in saying that it is something different, as they did when they made the same claim for the Morrow patent. The Court of Appeals says: "The necessary inference from all the circumstances is that it adopted the Morrow device simply as a pretext under which to evade its liability under its contract;" and again, "In the substitution of the Morrow device by the company for the Farrow device is found the gist of the appellee's grievance;" and again, "The company is liable to account to him for its use of the Morrow device, as thought it had been its own. And this theory is fully supported by the testimony. It is shown that the Morrow device *effects precisely the same purpose as the Farrow device*, and the substitution of it by the company for the latter was merely *an attempt to evade liability*. Such substitution cannot, therefore, be allowed to have the effect of removing the appellant's accountability to the appellee."

I believe that the Court of Appeals will take the same view of the attempt of your clients to evade their contract with Farrow as expressed in the opinion of your present contention, that they are not making brake and coasting devices of the Farrow and Morrow patterns, and I am prepared now to raise an issue on this point.

I will allow, for the sake of argument, that the coaster brakes that you are now manufacturing are superior to those invented—Farrow, Morrow, and Stover & Hance, or anybody else, and that although they accomplish the same purpose, they are constructed on entirely different principles. I feel perfectly sure that the court will say, in answer to that, exactly what they said in their opinion as above quoted, which is to the effect that your company fraudulently seeks to evade its contract with Farrow when they manufacture any inventions which are improvements on bicycles pertaining to automatic

coaster and brakes, without compensating Farrow therefor in accordance with their contract.

The reason for my taking up this subject so fully is that this matter is now before the auditor, and the question that you have raised will become an issue through a reference to be held by him. I shall be obliged to withdraw my offer to accept a report from your company, and must ask that you have a representative of the company present at the hearing for examination. In that way the
294 issue can be made on the point which you have raised, and an appeal can be taken from the order confirming the auditor's report; thus the matter will reach the Court of Appeals for another decision at an early date.

I wish to notify you that in the event of your client's not appearing for examination at the reference that we will submit the best evidence that we have concerning the number of brakes and shall obtain a report from the auditor thereon.

I shall have a date set for the hearing the first week in August, of which due notice will be given.

Yours very truly, HENRY M. EARLE.

295 *Motion of Complainant to Amend His Answer, &c.*

Filed October 22, 1900.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
THE ECLIPSE BICYCLE COMPANY. } In Equity. No. 19095.

Now comes the complainant, Willard M. Farrow, and moves the court to be allowed to amend his answer to the defendant's motion for leave to amend its answer and take additional testimony, by adding the following paragraphs:

1. Complainant states that he is informed and being informed believes to be true, that the defendant company has gone out of business and has ceased to exist and all of its property of every kind and description has been sold to a corporation known as the Eclipse Manufacturing Company which was incorporated by Harmon H. Fulton, Alexander Morrow (formerly president and superintendent of the Eclipse Bicycle Company) and others, under the laws of Delaware, June 25th, 1900, which company is now manufacturing what they call the Morrow brake and coaster, and said Eclipse Manufacturing Company is the real party who filed the motion in this cause.

2. Complainant further states upon information and belief that the sole purpose of this motion is for delay.

Wherefore complainant prays that if said motion is allowed and

leave given to amend, that same shall be conditioned that
296 the true defendant The Eclipse Manufacturing Company, comes in and files a petition making itself party defendant to this cause.

HENRY M. EARLE,
JOHN C. GITTINGS,
Attorneys for Complainant.

I hereby accept service of the within motion.

To A. S. Worthington and D. S. Mackall, Esquires, solicitors for defendant:

Please take notice that *I* shall call up the above motion before Mr. Justice Cole on Wednesday, the 24th day of October, A. D. 1900 at ten o'clock a. m., or as soon thereafter as counsel can be heard.

H. M. EARLE,
JOHN C. GITTINGS,
Solicitors for Complainant.

297 *Order Permitting Defendant to Amend Answer on Conditions.*

Filed October 22, 1900.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
THE ECLIPSE BICYCLE COMPANY. } In Equity. No. 19095.

This case came on to be heard upon the motion filed herein by the defendant on the 11th day of October, 1900, for leave to amend its answer and to reopen the evidence, and on the accompanying affidavits and exhibits and upon the answer thereto of the complainant filed herein on the 19th day of October, 1900, and the accompanying affidavits and upon the pleadings and evidence in the case, and was argued by counsel for the respective parties and submitted to the court, and upon consideration thereof it is, this 22nd day of October, 1900, ordered that said motion be, and it is hereby, granted, and that the defendant have leave to file an amended answer in this case on or before the 1st day of November, 1900, in accordance with its said motion, provided that this order is made upon the following conditions: (1) That on or before said 1st day of November, 1900, the defendant shall pay to the complainant or to his solicitors of record the sum of $85 and $\frac{67}{100}$ dollars, being the amount of taxable costs incurred in this case by the complainant to this date, and to the clerk of this court the taxable costs due him in this case; (2) that the defendant shall pay the taxable costs reasonably incurred

in taking depositions hereafter under the amended pleadings, whether such depositions shall be taken on behalf of the complainant or the defendant; (3) that when issue on the amended pleadings shall have been joined the defendant shall within 30 days thereafter close its testimony in support of its amended answer; (4) that within ten days after the plaintiff shall have taken his depositions in rebuttal the defendant shall close its evidence in reply, and (5) that immediately upon the closing of the testimony the case shall be placed upon the trial calendar of the court; and it is further ordered that the proceedings before the auditor under the pending reference of this case to him shall be stayed until the further order of the court, and that all the depositions heretofore filed in the case shall remain in the case to be read in evidence at the further hearing of the cause.

CHAS. C. COLE, *J.*

298 *Amended Answer.*

Filed November 3, 1900.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW, Plaintiff,
vs.
THE ECLIPSE BICYCLE COMPANY, Defendant. } No. 19095, Eq. Doc. 44.

Amended answer.

By leave of the court first had and obtained, the defendant amends its answer to the original bill and to the supplemental bill in this case, so that it will read as follows:

1. It admits that the plaintiff is a citizen of the United States and a resident of the District of Columbia.

2. It admits that it is a corporation, duly incorporated under the laws of the State of New York, with its central offices at Elmira, New York. It further admits that when said original and supplemental bills were filed, it had an office in the District of Columbia, and was doing business therein.

3. It admits that sometime prior to May, 1897, the plaintiff conceived an invention of a bicycle device, being an automatic brake and coaster, and that his said supposed invention was fully described in applications for letters patent filed in the United States Patent Office, July 24th, 1896, and December 1st, 1896. It has no such knowledge or information as will enable it to either admit or deny that the plaintiff conceived said supposed invention as early as the month of November, 1895. On information and belief it denies that the plaintiff was the original and first inventor of the devices, set forth and claimed in said applications.

299 4. It admits that about the middle of May, 1897, the plaintiff brought his said supposed invention to the attention of the defendant, through its local agent in the District of Columbia, J. D. Lasley, and its president, H. H. Fulton, and that said Fulton, as such president, during the latter part of said month, negotiated with the plaintiff for the purchase by the defendant of said supposed invention. It further admits that on or about the 5th day of June, 1897, the plaintiff entered into an agreement in writing with the defendant through its said president, H. H. Fulton, and that Exhibit A to the original bill of complaint is a true copy of said agreement. It admits further that it paid to the plaintiff the sum of twenty-five hundred dollars as provided in said contract. It denies that according to the terms of said agreement between them, or otherwise, there is due to the plaintiff from it a large balance or any balance.

5. It admits that in compliance with the terms of its said contract and as soon as practicable after said contract was executed it began the manufacture and sale of said device, and that it largely advertised the same, designating it in such advertisements as "the Farrow brake and coaster." It admits that Exhibit B to the said original bill is a true copy of one of said advertisements. It denies that it began the manufacture and sale of a large number of said devices, and avers on the contrary that the total number of said devices manufactured by it was sixty-eight.

6. It admits that after the making of said contract and after it had entered upon the performance thereof and on or about the 15th day of July, 1897, Alexander P. Morrow who was at the time the general superintendent of the defendant company, filed an application in the United States Patent Office for letters patent on a bicycle brake to be used in connection with a coasting device, and that at about the same time said Morrow assigned to said H. H. Fulton, the president of the defendant company, a one-half
300 interest in the invention described in said application of said Morrow, and that it began the manufacture and sale of the devices described in said application of said Morrow, designating the same as the "Morrow brake and coaster." It admits that Exhibit C to said original bill is a true copy of one of the advertisements of said Morrow brake and coaster, published by the defendant. It denies that at the time of the filing of the bill of complaint in this case it had manufactured a large number of said Morrow devices, and avers that on the contrary the number manufactured by it at that time did not exceed twenty-six hundred. It denies that in making said application or in any other way, said Morrow connived or designed to defeat the interest of the plaintiff under the said contract in writing between him and the defendant. It denies that the said Morrow device was in effect the same as that purchased by the defendant from the plaintiff. It admits that it accomplished the same result, but by different mechanism and in a different way. It denies that said Morrow device was a mere mechanical equivalent of the plaintiff's alleged invention.

7. It denies that it failed to protect or defend the patent rights of

the plaintiff in his said alleged invention, and denies that in said supposed invention the plaintiff had any patentable rights. It denies that it failed to use due diligence in the manufacture and sale of the plaintiff's said device. It denies that it substituted therefor a more mechanical equivalent. It denies that it failed to take the proper steps for the protection or prosecution of the plaintiff's alleged patent rights, and that in that way, or in any other way it caused the plaintiff great loss or any loss.

8. In reply to the eighth paragraph of said original bill the defendant says that the only communications between it and the plaintiff to which said paragraph could relate were a letter from the plaintiff, dated February 14th, 1898, a copy of which is hereto appended marked Exhibit A and made a part hereof; a written
301 reply thereto, dated February 15th, 1898, a copy of which is hereto appended marked Exhibit B, and made part hereof; and a letter (undated) from the plaintiff's attorney to the defendant which was received by the defendant on or about the 21st day of February, 1898, a copy of which is hereto appended marked Exhibit C and made part hereof.

9. It again denies that it has manufactured or sold a large number of Farrow automatic brakes and coasters, and repeats its averments that it manufactured and sold but sixty-eight of said devices. It denies that it has manufactured or sold any similar devices, substituted by it for the said Farrow device.

10. It is advised and avers that under the agreement between it and the plaintiff, it did not become the agent or partner of the plaintiff for the purpose of procuring or protecting his said "patents applied for" or for manufacturing and selling the plaintiff's said devices. It denies that it sought to suppress the use of the plaintiff's said device, and denies that it allowed his patent rights to become involved.

302 11. As to paragraph one of the supplemental bill (so called) in this case, the defendant on information and belief denies that after the filing of the original bill, the United States Patent Office refused to give the plaintiff any information in regard to the status of his said letters patent.

12. Answering the second paragraph of said supplemental bill the defendant denies that it caused an assignment of the plaintiff's said application to be made to it, or that any such assignment was executed and it avers that on the contrary no such assignment was made except as one is embodied in said contract of June 5th, 1897. It denies that the plaintiff was required by it to execute a power of attorney to its attorney, James L. Skidmore. It admits that said Skidmore was a solicitor of patents having an office in the city of Washington, and was the regular attorney for the defendant in such matters in May and June, 1897, and that the plaintiff executed a power of attorney to said Skidmore, revoking thereby a power of attorney previously given by him to one J. M. Pollard. It admits that both said contract and said power of attorney were duly filed in the United States Patent Office, but on information and belief it denies

that under the rules of said Patent Office, the plaintiff was no longer recognized by the Patent Office, nor permitted to prosecute his said applications.

303 13. Answering the third paragraph of said supplemental bill, the defendant denies that it itself undertook to prosecute the claims for letters patent under the plaintiff's said applications, and avers the fact to be, as hereinafter more fully set forth, that it undertook to press said claims in conjunction with the plaintiff himself. It admits that no patent has ever issued on the plaintiff's said *applications, or either of them.* It denies that there has been any failure on its part to properly prosecute the said claims, or either of them, and denies that in this way, or in any other way, it has done anything in furtherance of any scheme on its part to evade its obligations to the plaintiff under said agreement between it and the plaintiff, or to substitute for the plaintiff's said supposed invention, any other device, substantially a reproduction of the plaintiff's said supposed invention.

14. Further answering both said original and supplemental bills the defendant says as follows:

Of the said two applications of the plaintiff for letters patent, one No. 600,359, was filed in the Patent Office on July 24th, 1896. On the 20th day of October, 1896, said Patent Office, by a communication in writing, notified the plaintiff through his attorney J. M. Pollard, that the three principal claims of said application were rejected because of a prior United States patent No. 418,142, issued to Daniel S. Stover and William A. Hance, on the 24th day of December, 1889, and other claims because of other patents. The other of said two applications No. 614,140 was filed in the Patent Office on December 1st, 1896, and on the 22nd day of January, 1897, said Patent Office in writing notified the plaintiff, through his said attorney, that the first and principal claim thereof was rejected upon said patent to said Stover and Hance, and that the third claim

304 (the next in importance) was rejected upon the United States patent to one Bailey No. 517,996, April 10th, 1894.

The negotiations between the plaintiff and the defendant which resulted in the execution of said contract of June 5th, 1897, began in the middle of May, 1897, and were conducted on the part of the defendant exclusively by H. H. Fulton, its president. Said negotiations until the terms of the agreement were substantially settled, were carried on verbally in the city of Washington during the month of May, 1897, while said Fulton was in said city, whither he had come on other business of the defendant company. Said negotiations began by the plaintiff exhibiting to said Fulton a device embodying the plaintiff's supposed invention, which device so exhibited to said Fulton by the plaintiff consisted in the combination in a bicycle of a coasting device with a back-pedaling brake device, embodying a brake-shoe hung upon the frame of the machine and adapted to press against the tire of the rear wheel thereof, a swinging frame carrying a dog adapted to engage in the links of the chain when the motion thereof was reversed by back-pedaling; and a rod

connecting said frame with said brake-shoe, whereby the brake-shoe was pressed against the tire upon back-pedaling. No other device was shown, or described, by said Farrow to the defendant during said negotiations. Said device so far as the combination of a coasting device with a back-pedaling brake device was concerned was the same as that embodied in said patent to said Stover and Hance, of the existence of which prior patent, the plaintiff as hereinabove stated, was fully advised several months before said negotiations began. Until that time said Fulton had never seen or heard of a bicycle equipped with both a coaster and a back-pedaling brake. Especially had he never heard of the said Stover and Hance patent. Believing that the plaintiff was the original and first inventor of the said combination, said Fulton wished to get control of that invention on terms mutually beneficial to said Farrow and this defendant. The plaintiff, well knowing that said Fulton's sole pur-
305 pose in negotiating with the plaintiff for the purchase of his said supposed invention was so to get control of all devices to be used upon bicycles, embodying the combination of a coaster with a back-pedaling brake and well knowing that he, the plaintiff, was not the original or first inventor of said combination, and that in all material and valuable parts his said supposed invention had been fully anticipated by said patent issued to Stover and Hance, throughout said negotiations, falsely and fraudulently represented to said Fulton, not only that he, the plaintiff, was the original and first inventor of said combination, but also that the only objection which had been made to his said applications by said Patent Office were purely formal, and that there was no doubt but that a broad and valuable patent on said combination would be issued on said applications. Believing these representations and fully relying upon them, said Fulton proceeded with said negotiations on behalf of the defendant and completed said contract. After the principal terms of the agreement between the plaintiff and the defendant had been verbally agreed upon, it was suggested to said Fulton by the plaintiff and the plaintiff's said attorney Pollard, that said Skidmore, defendant's attorney, should act as the attorney for the plaintiff in the prosecution of said applications. Neither said Fulton nor the defendant in any way required or caused this to be done, but upon the suggestion of the plaintiff himself, as aforesaid, said Fulton for the defendant acquiesced in said proposition to substitute said Skidmore for said Pollard, and agreed that the defendant would pay said Skidmore for his services in prosecuting said applications.

After it had been so agreed that said Skidmore should be substituted for said Pollard as the plaintiff's attorney, and prior to the execution of said contract of June 5th, 1897, said Skidmore as such attorney undertook to make an investigation of prior patents for the purpose of determining whether or not the claims of the plaintiff in said applications were patentable. Said Skidmore was induced by the plaintiff to make said investigation in a hurried and im-
306 perfect manner, first, because of the fact that he was urged by the plaintiff to expedite the matter on the ground among

other things that he, the plaintiff, was greatly in need of money and must have it in a very short time—and second, by representations made to said Skidmore both by the plaintiff and by said Pollard in the plaintiff's hearing, that the examination that had been made by the Patent Office and its action thereon had shown that there was no objection to the applications, except those which were merely clerical and formal. Said Skidmore in making said investigation was misled particularly as to said Stover and Hance patent by the said conduct and representations on the part of the plaintiff and by the further fact that said patent of said Stover and Hance was mainly a patent for a spring frame for a bicycle and the same was not indexed in the Patent Office as a patent for brakes at all. In consequence of these several facts said Skidmore concluded said investigation without discovering the fact well known as aforesaid at the time to the plaintiff that said Stover and Hance patent did anticipate all the principal features of his said supposed invention. Accordingly when his said imperfect investigation had been concluded said Skidmore shortly prior to the execution of the contract of the 5th of June, 1897, by the defendant, advised the defendant that said supposed invention of the plaintiff was not anticipated and that a patent with broad claims thereon as desired by the defendant in his opinion, would be obtained. The defendant having said opinion and advice from said Skidmore in addition to the representations to the same effect theretofore made to it by the plaintiff and by said Pollard as aforesaid, relied upon the same and signed said contract and paid the sum of $2,500. to the plaintiff in accordance with the terms of said contract, in entire ignorance of the existence of said Stover and Hance patent, and without any knowledge or suspicion that by said patent of Stover and Hance or otherwise the plaintiff's said invention had been anticipated.

The assignment referred to in the bill of complaint which transferred to the defendant the right, title and interest of the plaintiff in said applications was executed and recorded as aforesaid,
307 but did not direct that any patent that might issue on the plaintiff's said applications should be issued to the defendant. After the said contract of June 5th, 1897, had been executed, said Skidmore conducted the prosecution of said applications as the attorney both of the plaintiff and the defendant. Upon information and belief the defendant avers that in the subsequent conduct of said applications, said Skidmore frequently conferred and consulted with the plaintiff and that everything that was done by said Skidmore in that behalf was agreed to by the plaintiff, and that when it subsequently appeared to said Skidmore that all the principal claims of said applications were anticipated, not only by said patent to said Stover and Hance, but by many other patents and applications, the plaintiff acquiesced in the conclusion reached by said Skidmore and by this defendant that it was useless to go to the expense of prosecuting the applications further. The fact that said patent to said Stover and Hance was in existence was first brought

to the notice of the defendant by the plaintiff himself, on or about the 31st day of July, 1897.

In or about the latter part of May, 1897, the plaintiff sent to the defendant at Elmira, a bicycle to which was attached his said device. This bicycle about the said time was seen by Alexander P. Morrow, the defendant's general superintendent. Said Morrow prior to that time had made many inventions and had obtained numerous patents, many of which were for devices connected with bicycles. Said Morrow had never seen or heard of a back-pedaling brake in connection with a coasting device until he saw said bicycle so sent by the plaintiff to the defendant. Believing the particular back-pedaling device adopted by the plaintiff to be defective, among other things in the rattling of the chain in passing through the frame which held the dog that engaged in the chain on back-pedaling, said Morrow of his own motion undertook to devise a better way of accomplishing the same result. In carrying out this undertaking, he kept his intentions and his operations from the knowledge of said Fulton and the other managing officers of said corporation, and that said Morrow was so engaged
308 was not known by said Fulton or any of said managing officers until about the 15th day of June, 1897, when said Morrow exhibited to said Fulton a bicycle to which was attached a complete device which said Morrow had so devised. It is this device which is the subject of the application of said Morrow for letters patent referred to in the sixth paragraph of the original bill of complaint in this case. After a one-half interest in said invention of said Morrow had been assigned to said Fulton for the benefit of the defendant, and while the application for a patent therefor was pending in the Patent Office, the defendant was using every legitimate and proper effort to obtain patents for said broad claim of the plaintiff in England, France, Austria, Germany and Belgium, and to exploit the plaintiff's invention in those countries, believing that the plaintiff was the original and first inventor of that combination and that a patent therefor would be obtained from the United States. It believed the said Morrow invention to be merely an improvement on the particular back-pedaling device used by said Farrow for a bicycle brake and that the broad claim that it expected would be granted upon the Farrow application would cover the Morrow device, and it intended in that case to pay to the plaintiff the royalties stipulated in said contract between it and the plaintiff, and to pay to said Morrow compensation for his improvement. There was never any collusion or understanding of any kind between said Morrow and the defendant, looking to the substitution of said Morrow's invention for the plaintiff's alleged invention, for the purpose of defrauding the plaintiff or enabling the defendant to escape from any of its obligations to the plaintiff under said contract.

Besides the said patent of Stover and Hance and the applications for patents which were made the subject of said interference proceedings, there had been granted prior to the said supposed inven-

tion by the plaintiff of his said device, many other patents which completely anticipated all the principal features of the plaintiff's said supposed invention and rendered it therefore unpatent-
309 able. A list of the said patents is hereto appended marked Exhibit D and made part hereof.

The defendant ever since said contract was entered into has understood, and it is now advised and avers, that considering the surrounding circumstances when said contract was made, as hereinabove set forth, the true interpretation thereof is that the defendant was to pay to the plaintiff the royalties therein provided for, in case it should turn out that the plaintiff was the original and first inventor of said combination in a bicycle of a coaster with a back-pedaling brake; and that said contract does not require the defendant to pay to the plaintiff said royalties, or any part thereof, in case of the failure of the plaintiff without fault on the part of the defendant to obtain a patent for such a combination. When the defendant learned as aforesaid through the plaintiff of the existence of said patent of Stover and Hance, and when subsequently, through certain interference proceedings which were declared in the Patent Office, it learned of the existence of other applications for patents on devices in all respects the same as those which it had purchased as aforesaid from the plaintiff, and that the state of the art when the plaintiff claims to have conceived his supposed invention as thus exhibited demonstrated that it was impossible to obtain a patent for said combination, or anything substantially like it, the defendant believed and still believes, and it is advised and avers that its obligations to the plaintiff under said contract were at an end and that on the contrary in justice and right it was the duty of the plaintiff to return to the defendant the twenty-five hundred dollars, which he had received from it. The defendant is further advised and avers that for any supposed obligations on its part to the plaintiff under the said contract between them of June 5th, 1897, growing out of anything done by it after its said letter to him of the 15th of February, 1898, whereby it gave the plaintiff notice, for the reasons in said letter stated, that it considered itself
310 discharged from the obligations of said contract, the plaintiff has a complete and adequate remedy at law, and that as to the same this honorable court is without jurisdiction.

15. The defendant further avers on information and belief that prior to the 5th day of May, 1899, the plaintiff invented an improvement on the said invention sold by him as aforesaid to the defendant, said improvement being a back-pedaling brake and coaster sprocket wheel; that on said last mentioned day the plaintiff executed and made oath to an application to the United States for letters patent on said improvement and filed the same in the Patent Office in his own name and for his own benefit; that at the same time the plaintiff executed and delivered to one Fred. G. Dieterich an assignment of an undivided one-eighth interest in his said invention and in any patent that might issue therefor, which assignment was duly recorded in the Patent Office on the 8th day of May,

1899, in Liber V 58 of Transfers of Patents at page 457 thereof; that the defendant had no notice, knowledge or information of such invention or of said application for a patent therefor or of the said assignment of an undivided interest therein until about twelve o'clock on the 2nd day of November, 1900; and that the plaintiff never asked or obtained the consent of the defendant to the filing of said application by the plaintiff for his own benefit or to said assignment. Wherefore, the defendant while admitting that when the transactions in this paragraph set forth occurred, the plaintiff was at liberty to deal with any such improvement as his own, is advised and avers that such conduct on the part of the plaintiff was wholly inconsistent with the position maintained by him in this suit, and that he cannot in this court further proceed with his attempt to have said contract of June 5th, 1897, specifically enforced against this defendant.

311 16. On information and belief the defendant avers that by a written assignment dated December 1st, 1896, and executed on or about that date, the plaintiff transferred to one William W. Cookson an undivided one-tenth interest in the inventions described in his said applications of July 24th, 1896, and December 1st, 1896; that during the negotiations between the plaintiff and the defendant which resulted in the execution of said contract of June 5th, 1897, the plaintiff studiously concealed from the defendant and from said Skidmore the fact that he had made such an assignment, and on the contrary informed the defendant and said Skidmore during said negotiations that he, the plaintiff, was the sole owner of said inventions, and that his title thereto was perfect, which representations the defendant relied upon and believed in entering into said contract.

ECLIPSE BICYCLE CO.,
By DAVID L. WHITTIER,
Treasurer & Vice President.

A. S. WORTHINGTON,
MACKALL & MAEDEL,
Solicitors for Defendant.

I, David L. Whittier, on oath say that I am the treasurer and vice-president of the defendant, The Eclipse Bicycle Company; that Harmon H. Fulton, the president of said company, is now in California; that I have read the foregoing answer by me subscribed; that the statements therein made absolutely are true to the best of my knowledge and belief.

DAVID L. WHITTIER.

Subscribed and sworn to before me this second (2nd) day of November, 1900.

J. ARTHUR LYNHAM,
[SEAL.] *Notary Public.*

We hereby waive the right to take advantage of the delay of two days in filing the above answer.

HENRY M. EARLE,
JOHN C. GITTINGS,
Sol'rs for Compl'ts.

312 EXHIBIT A.

Office of Farrow Arms Company.

WASHINGTON, D. C., *Feb.* 14, 1900.

Eclipse Bicycle Co., Elmira, N. Y.

DEAR SIR: I have heard nothing from you relative to your progress in the manufacture and sale of our brake. I notice you are selling a good many brakes and some call it the "Morrow coaster" and not *Farrow* coaster.

Please give me some information about this matter at your earliest convenience, and oblige,

Yours very truly, W. MILTON FARROW,
315 13*th St. N. W., Wash., D. C.*

313 EXHIBIT B.

Eclipse Bicycle Co., manufacturers of high-grade bicycles.

ELMIRA, N. Y., *Feb.* 15, 1898.

W. Milton Farrow, Esq., #315 13th street N. W., Washington, D. C.

DEAR SIR: We have yours of the 14th, and in reply will say that we wish we never had seen or heard of the Farrow brake; it has cost us thousands of dollars, and on top of all this, we cannot get a patent that is worth a pinch of snuff. Not only that, but your application was anticipated by one or two other parties, and the whole thing practically knocked out, and we are out every cent we paid you.

What we propose to do in the future can only be determined by the quality of the work we are now turning out. If it holds up all right we may be able to work your brake in with ours in some way to be of benefit to us, but as to this it is uncertain and we doubt it.

Yours truly, ECLIPSE BICYCLE CO.
H. H. FULTON, *Pres.*

314 EXHIBIT C.

Henry M. Earle, att'y at law, 326 4½ St. N. W., Washington, D. C.

The Eclipse Bicycle Company, Elmira, New York.

GENTLEMEN: Mr. W. M. Farrow has called to see me relative to your letter of the 15th instant, and explains that about a year ago

he entered into a contract with you for the sale of a bicycle device, on which you were to pay him a royalty, that you were also to make returns regularly as to the progress of the work, but that he has received from you no report. My information you will see is limited, but I trust that you will promptly comply with my request to inform me fully as to the interest of Mr. Farrow and as to what disposition, if any, can be made of his claim against you.

It appears from your letter that the arrangement between you and Farrow is virtually of no advantage to either party. I wish to ask therefor- if there is anything in your agreement to prevent Mr. Farrow from making or disposing of the device or if you object to his so doing, of course subject to the patent rights of others which you mention.

Mr. Farrow is under the impression that his brake is called the Morrow, having seen your advertisement relative to same. An early answer will be appreciated.

Very truly yours,
(Signed) H. M. E.

315 EXHIBIT D.

United States Patents.

Stover & Hance, 418,142, Dec. 24, 1889, bicycle.
Warwick, 434,615, Aug. 19, 1890, bicycle.
Bailey, 517,996, Apr. 10, 1894, automatic vehicle brake.
Courtland, 520,728, May 29, 1894, bicycle.
Whitney, 527,571, Oct. 16, 1894, bicycle.
Gardner, 532,048, Jan. 8, 1895, brake.
Moise, 533,912, Feb. 12, 1895, bicycle.
Elliott, 554,416, Feb. 11, 1896, automatic brake for bicycles.
Bailey, 555,720, Mar. 3, 1896, automatic vehicle brake.
Guertin, 561,885, June 9, 1896, automatic bicycle brake.
Logan, 567,650, Sept. 15, 1896, bicycle brake.
De Bergue, 567,949, Sept. 15, 1896, bicycle brake.

British Patents.

Rae, 979, dated Mar. 11, 1876, improvements in velocipedes part-y applicable to other vehicles & machines.

Edge, 295, dated Jan. 2, 1884, improvements in tricycles and other velocipedes.

Watkins, 4169, dated Feb. 29, 1884, improvements in foot brakes for bicycles, tricycles and other velocipedes.

Hartley, Smith & McDougall, 19,608, dated Dec. 2, 1890, improvements in and relating to bicycles, tricycles and like vehicles.

Stokes (Boult), 597, dated Jan. 12, 1891, improvements in velocipedes.

Johnson, 16,290, dated Sept. 12, 1892, friction brakes for cycles and the like.

Bailey, 7138, dated April 10, 1894, improvements in bicycles, tricycles and other vehicles.

Bailey, 9624, dated May 16, 1894, an improved brake for vehicles.

316 Michael, 16,732, dated Sept. 3, 1894, improvements in brakes for bicycles and tricycles.

Juhel, 8833, dated May 3, 1895, improvements in driving and brake mechanism for cycles and other vehicles.

Walmsley, 16,961, dated September 11, 1895, improvements in mechanism for applying brake power to velocipedes or cycles.

Walmsley, 21,326, dated November 11, 1895, improvements in mechanism for applying brake power to velocipedes or cycles.

Rexworthy, 1132, dated January 16, 1896, improvements in brakes for bicycles and like vehicles.

317 *Order Allowing Special Appeal.*

Filed November 6, 1900.

In the Court of Appeals of the District of Columbia, October Term, 1900.

No. 81, Original Docket.

WILLARD M. FARROW, Petitioner,
vs.
THE ECLIPSE BICYCLE COMPANY. } Equity. No. 19095.

On consideration of the petition of Willard M. Farrow for the allowance of a special appeal from an order of the supreme court of the District of Columbia, entered herein on the 22d day of October, A. D. 1900, it is now here ordered by the court that said appeal be, and the same is hereby allowed.

M. F. MORRIS,
SETH SHEPARD,
Associate Justices.

November 5, 1900.

A true copy.
Test:
[SEAL.] ROBERT WILLETT, *Clerk.*

318 *Mandate.*

Filed May 27, 1901.

UNITED STATES OF AMERICA, ss:

The President of the United States of America to the honorable the [SEAL.] justices of the supreme court of the District of Columbia, Greeting:

Whereas, lately in the supreme court of the District of Columbia, before you or some of you, in a cause between Willard M. Farrow, complainant, and The Eclipse Bicycle Company, defendant, equity No. 19,095, wherein the order of the said supreme court entered in said cause on the 22nd day of October, A. D. 1900, is in the following words, viz:

" Order Permitting Def't to Amend Answer on Conditions.

Filed October 22, 1900.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
THE ECLIPSE BICYCLE COMPANY. } In Equity. No. 19095.

This case came on to be heard upon the motion filed herein, by the defendant on the 11th day of October, 1900, for leave to amend its answer and to reopen the evidence, and on the accompanying affidavits and exhibits and upon the answer thereto of the complainant filed herein on the 19th day of October 1900, and the accompanying affidavits and upon the pleadings and evidence
319 in the case, and was argued by counsel for the respective parties, and submitted to the court, and upon consideration thereof it is, this 22nd day of October, 1900, ordered that said motion be, and it is hereby granted, and that the defendant have leave to file an amended answer in this case on or before the 1st day of November, 1900, in accordance with it- said motion, provided that this order is made upon the following conditions:

(1.) That on or before said 1st day of November, 1900, the defendant shall pay to the complainant or to his solicitors of record the sum of $85 67/100 dollars, being the amount of taxable costs incurred in this case by the complainant to this date, and to the clerk of this court the taxable costs due him in this case;

(2.) That the defendant shall pay the taxable costs reasonably incurred in taking depositions hereafter under the amended pleadings,

whether such depositions shall be taken on behalf of the complainant or the defendant;

(3.) That when issue on the amended pleadings shall have been joined the defendant shall within thirty days thereafter close its testimony in support of its amended answer;

(4.) That within ten days after the plaintiff shall have taken his depositions in rebuttal the defendant shall close its evidence in reply, and

(5.) That immediately upon the closing of the testimony the case, shall be placed upon the trial calendar of the court; and it is further ordered that the proceedings before the auditor under the pending reference of this case to him shall be stayed until the further
320 order of the court, and that all the depositions heretofore filed in the case shall remain in the case to be read in evidence at the further hearing of the cause.

CHAS. C. COLE, *J.*"

as by the inspection of the transcript of the record of the said supreme court, which was brought into the Court of Appeals of the District of Columbia by virtue of an appeal, agreeably to the act of Congress in such case made and provided, fully and at large appears.

And whereas, in the present term of April, in the year of our Lord one thousand nine hundred and one, the said cause came on to be heard before the said Court of Appeals on the said transcript of record, and was argued by counsel:

On consideration whereof, it is now here ordered, adjudged and decreed by this court that the order of the said supreme court of October 22, 1900 in this cause be, and the same is hereby reversed with costs; and that the said complainant Willard M. Farrow, recover against the said defendant, The Eclipse Bicycle Company, one hundred and fourteen dollars and seventy cents, for his costs herein expended and have execution therefor.

And it is further ordered that this cause be, and the same is hereby, remanded to the said supreme court, with directions to proceed with the audit heretofore directed to be had, and for such other proceedings according to law as may be just and proper.

April 2, 1901.

321 You, therefore, are hereby commanded that such execution and further proceedings be had in said cause in conformity with the opinion and decree of this court as according to right and justice, and the laws of the United States ought to be had, the said appeal notwithstanding.

Witness, the Honorable Richard H. Alvey, Chief Justice of said Court of Appeals, the 27th day of May, in the year of our Lord one thousand nine hundred and one.

ROBERT WILLETT,
Clerk of the Court of Appeals of the District of Columbia.

Costs of Complainant.

Clerk	$21.70
Printing record	93.00
	$114.70

322 *Report of Auditor, &c.*

Filed June 2, 1902.

In the Supreme Court of the District of Columbia.

WILLARD N. FARROW, Complainant,
vs.
THE ECLIPSE BICYCLE COMPANY, Defendant. } In Equity. No. 19095.

By decree passed in this cause on the 31st day of January 1900, it is adjudged that the complainant is entitled to receive from the defendant royalties under the terms and in the manner expressed in the contract between the said complainant and the defendant, dated June 5th, 1897, upon all the devices manufactured by said defendant company, embodying the inventions mentioned in the applications for letters patent filed in the Patent Office by the complainant respectively on July 24, 1896, and December first 1896, the serial numbers of said applications being 600,359 and 614,140.

And further that the complainant is entitled to receive from the defendant royalties upon devices manufactured by said defendant company under letters patent granted to Alexander P. Morrow, dated September 20, 1899, and numbered 611,073 upon the same terms and in the same manner expressed in the aforesaid contract between the complainant and the defendant.

By the same decree the cause was referred to me to state the account between the parties in accordance with the said decree, with instructions to take such testimony and evidence as might be necessary for that purpose.

323 From the said decree a special appeal was allowed to the Court of Appeals of this District where the decree was affirmed. On the filing of the mandate of said court in this court the reference was moved before me and being set for hearing was continued from time to time until application was made to have the proceedings suspended to allow counsel for the defendant to present an application to the court for a re-hearing, which was done; the original decree being again affirmed, the reference was again taken up and the defendant company filed two accounts at different dates, the last one purporting to be a complete account of the royalties described in the decree of the court. After examination of these accounts counsel for the complainant excepted to both as being incomplete, it being averred that the defendant had manu-

factured and sold, and was continuing to manufacture and sell a device substantially, if not identically, the same as the device covered by the applications of the complainant as described in the decree, and demand was made for the production by the defendant of an account of the manufacture and sale of the device. The defendant declining to produce such account, application was made by the complainant to me for a rule upon the defendant to produce and file a statement of the manufacture and sale of the said device. At the same time there was presented and filed by the complainant a complete bicycle, said to contain the new device sold by the defendant as alleged, but as appears in the record the said bicycle was withdrawn as a whole, and a model filed as the original part of the mechanism contained in the said bicycle, and alleged to be the portion covered by the decree. This model is marked
324 Exhibit E 10, and will be described by that name throughout this report.

Considerable argument followed between counsel as to the authority or duty of the auditor to inquire whether the said new device was substantially the same as that described in the applications of the complainant for patents, or the letters patent granted to Morrow, and referred to in the decree.

Upon the authority of the case of The Fenton Metallic Manufacturing Company *vs.* The Office Specialty Manufacturing Company, recorded in 12 Appeal Cases, 201, I determined, for the purposes of this reference and accounting, that inquiry into the matter of the construction of the new device was within the terms of the decree and included in the duty of the auditor in executing the order of reference.

At this point I refer to the contract between the complainant and the defendant company, which will be found on page 4 of the original printed record in the Court of Appeals. By this agreement the complainant sold, assigned and set over to the defendant his entire right, title, and interest in and to the inventions claimed in applications numbered 600,359 and 614,140, and any letters patent that might be issued thereon, and in and to all improvements thereon that might hereafter be made by the complainant, subject to certain stipulations and agreements. Of the latter it is only necessary to cite such as may be material to the present accounting. These are as follows: The royalty to be paid was the sum of 50 cents each on the first 10,000; 25 cents on the second 10,000; 15 cents on
324½ the third 10,000; and for each over and above 30,000 10 cents each, provided that not less than 50,000 should be made and sold per annum after the first 30,000 provided for. And in case less than such 50,000 are made and sold in each year, the royalty should be 15 cents instead of 10 cents. The agreement further provided for a forfeiture by the defendant in case of default of payment of the royalties specified, of all the title to said invention and all letters patent based thereon, the same to revert to the complainant in such case.

An important provision in the said agreement is the seventh section or paragraph, which is in the following language:

"And it is further agreed by and between the parties hereto that in case the said William N. Farrow for any reason fails to procure letters patent of the United States for the improvements referred to, the parties of the second part shall be relieved from the payment of all royalties from and after the date of final adverse action of the Patent Office on the applications for patents for such improvements."

The plaintiff submitted in evidence the testimony of two expert witnesses for the purpose of showing that the device or brake, as it is sometimes termed, shown in Exhibit E 10, is substantially contained in the application of Farrow, numbered 600,359, or to show that there is found in Exhibit E 10 means whereby the same ends may be accomplished as in the device described in the application of the complainant, No. 600,359.

325 The defendant company submitted the testimony of two expert witnesses and all of the testimony will be found in the record of the proceedings in this reference returned with this report as a part of the same.

The controversies in this reference and to which the proof is directed relate to the Farrow application No. 600,359 and the device contained in Exhibit E 10.

The original of the said application contained ten claims (see pages 80 to 82 of printed record). Of these claims numbers 1, 2, 3 and 5 were rejected by the examiner of the Patent Office and objection made to those numbered 4 and 10 (Record page 83).

The application was then amended by cancelling the said rejected claims and those objected to and the drawings being also amended as they appear opposite page 85 of the printed record, the patent was allowed.

It appears in the history of the case that this patent was not taken out but for all purposes in the case it is to be treated as if the patent had been formally issued to the complainant.

Taking the rule from all the cases in which the authority or duty of the auditor, or master to inquire into the similarity or otherwise of a new device, as compared with the particular device before the court at the time of the decree is sustained, I find that the so-called new device must be substantially the same as that which was before the court. Applying that rule in this case I must find that Exhibit E 10 is substantially the same as the device described in the claims set forth in the application numbered 600,359, before I can require the defendant to account for the sale of the device of which Exhibit E 10 is the type. In other words I must find that in con-

326 struction and operation Exhibit E 10, in its various parts and combinations, is at least the mechanical equivalent of the claims set forth in the said application, that is, the parts and combinations of Exhibit E 10 must produce the same effect by substantially the same mode of operation. If in any of the substantial parts of the mechanism there is found in the claims of the Farrow appli-

cation a substantial feature or part of the device which is not found in Exhibit E 10, such difference, in my judgment, deprives the auditor or master of further jurisdiction in the matter.

Referring to the claims of the application No. 600,359 which were allowed by the Patent Office, the original numbers being 6, 7 8 and 9 and by the amended application being renumbered 1, 2, 3 and 4. I find an expansible brake spring set forth as the basis or an important part of the several combinations and operations described in the claims.

It is this expansible brake spring described in the Farrow claims and drawings which effect the braking operation.

In Exhibit E 10 there is no expansible brake spring, the braking pressure being produced by a cone-shaped brake which performs its work in a substantially different way from the Farrow brake spring. There is a radical difference not only in the construction but in the operation and one cannot be called the mechanical equivalent of the other.

To describe the differences in combination, their operation and effects I would be obliged to quote leberally from the testimony of the two witnesses for the defendant in their reference and to use the models filed here as exhibits with this testimony to illustrate
327 the respective operations of the two devices.

For the determination of the question presented to me it is sufficient to find that there is in the Farrow claims a substantial feature which is not in the device Exhibit E 10.

It being established that there are substantial differences between the two devices, that covered by the claims of the Farrow application and those contained in Exhibit E 10, I am of the opinion that I cannot require the defendant to account here for the manufacture and sale of devices, of which Exhibit E 10 is the type.

The account of royalties is stated in the schedules herewith.

JAS. G. PAYNE, *Auditor.*

328 In the Supreme Court of the District of Columbia.

FARROW
vs.
ECLIPSE BICYCLE COMPANY. } Equity. No. 19095.

In accordance with the practice in the Federal courts in references of this character, I prepared the foregoing as a draft report and submitted copies thereof to counsel for the respective parties for such exceptions or suggestions as might be made to the said report, or such further proceedings as parties might be advised in the premises.

The complainant has presented and filed exceptions which are returned with this report. The reference was then set down for further hearing, with notice to counsel for both parties, who thereupon appeared, and counsel for the defendant submitted an oral request that the auditor should compute and add to the balance found due in the schedule attached to the report, interest thereon.

After hearing the parties on the exceptions filed by the complainant, and the request of the defendant, I have to report that, in the absence of a claim by the complainant, that interest be allowed by the auditor and added to the schedule, I am without authority to make such allowance and addition.

I further have to report that I do not feel authorized to change the conclusions and findings expressed in the foregoing report, by reason of the exceptions filed by the complainant. I therefore adopt the foregoing as my final report upon the subject matter of the reference, including the schedules herewith.

JAS. G. PAYNE, *Auditor.*

329 SCHEDULE.

Account of royalties owing by the defendant, Eclipse Bicycle Company, to the complainant, Willard M. Farrow, upon the devices described in the decree of January 31, 1900.

Total sales of said devices to February 17, 1900		19,232
Royalties on the first ten thousand at 50 cents each	$5,000.00	
Ditto on 9,232 at 25 cents each	2,308.00	
		7,308.00
Less amount of payments by the defendant in advance according to the provisions of the contract of June 5, 1897		2,500.00
Balance due complainant		$4,808.00

JAS. G. PAYNE, *Auditor.*

330 FARROW
vs.
ECLIPSE BICYCLE CO.

FRIDAY, *May* 31*st*, 1901—10.30 a. m.

Hearing pursuant to notice.

Present: Messrs. Earle and Gittings for the complainant, and Worthington, Mackall and Howard L. Osgood for the defendant.

Mr. Earle calls for the production of the books and papers of the defendant company relating to the matters of issue in this case in accordance with the stipulation.

The auditor states that the call should specify the particular books and papers.

Mr. Earle states that the books and papers called for are specified in the decree of the court.

The auditor states that it is incumbent upon the complainant to specify what record is wanted.

Mr. Earle makes a formal call that the Eclipse Bicycle Company shall disclose and produce before the auditor, books, papers, and such other evidence as may be in its possession that in any way pertains to an accounting decreed to be due Willard M. Farrow from the Eclipse Bicycle Company in this case, for royalties due the said Willard M. Farrow under the terms and in the manner expressed in the contract between the complainant and the defendant dated June 5th, 1897, upon all devices manufactured by the said defendant, The Eclipse Bicycle Company, embodying the inventions mentioned in the applications for letters patent filed in the Patent Office by the complainant respectively on July 24th. 1896 and December 1st. 1896, the serial numbers of said applications being as follows, to wit, 600,359 and 614,140; and for such devices manufactured by
331 the said defendant company under letters patent granted to Alexander P. Morrow, dated the 20th. day of September, 1899, being letters patent numbered 611,073, and known as the Morrow brake and coaster for bicycles, royalties upon the same being due to the said Willard M. Farrow in accordance with the said decree on the same terms and in the same manner expressed in the aforesaid contract between the complainant Willard M. Farrow and the defendant, The Eclipse Bicycle Company, dated June 5th. 1897.

Mr. Worthington submits that the call is entirely too general. It leads to the taking up of the whole record, pleadings, contract, and opinions of court. If the call should be specific and state just what accounts are wanted, they can be produced. The first part of the call is so vague that it is impossible to tell what is wanted.

Counsel for the defendant again produces and asks to have formally filed in the case, the account which was left with the auditor some months ago, the same containing first a list of brakes manufactured under the Farrow applications or inventions, and second those manufactured under the Morrow patent No. 611,073 referred to in the final decree in this case dated January 31st, 1900 ("Def't's Acc't 1").

Counsel for the defendant also produces and files what is practically a duplicate of defendant's account No. 1, except that certain corrections have been made which make it more complete and perfect, the same being a list first of the Farrow brakes sold by the defendant company, manufactured in accordance with the Farrow applications, second those manufactured under the Morrow patent just described, and sold to manufacturers of bicycles, third the Morrow brakes sold by the defendant company on bicycles, the total number of brakes being 19,002, and according to the amended account being 19,232. This amended account which is
332 marked Exhibit Defendant's Account No. 2, differs from the first also in that the pages of the books from which the items are taken are referred to, which is not the case in the first account.

Counsel for the defendant company also produces and submits to the auditor and counsel for the complainant the books referred to in Exhibit Defendant's Account No. 2, and offers in evidence the entries in those books referred to by their page number in the account,

Exhibit Defendant's Account No. 2. These books are as follows,—the shipping books showing the brakes or bicycles with brakes as they were shipped and sent to purchasers; the books are seven in number, numbered from one to six and a book containing entries from October 27th, 1898 to May 27th, 1899. They are now marked for inspection as follows,—Book No. 1, No. 2, No. 3, No. 4, No. 5, No. 6, and No. 7. The books are already marked "Letters, March 13th, 1897 to June 30th, 1897, Book No. 2, from July 1st, 1897 to April 1st, 1898, Book No. 3, from April 1st, 1898 to August 1st, 1898, Book No. 4, from August 1st, 1898 to June 1st, 1899, Book No. 5, from June 2d, 1899 to August 31st, 1899, Book No. 6, from September 1st, 1899, to March 15th, 1900, Book No. 7, as before stated.

Counsel for the defendant states that this is a full and complete response to the call as understood by the defendant. Counsel for the defendant further states that these are all the books of original entry, the others are merely transcripts from these.

Mr. EARLE: What we asked for were all books and papers that the company had that would give light on the total number of devices manufactured that embody the inventions mentioned in the applications for letters patent numbered 600,359, 614,140 and 611,073.

Now they have shown only the devices that come under
333 certain heads but they do not say whether these are the only books which in any way show the number of devices which this company has made embodying the inventions which are described in the applications for letters patent which Mr. Farrow sold to the company under the contract of June 5th, 1897. These are books that only relate to certain devices. We except to them in that they do not purport to be in any way the books that show the number of devices described in the letters patent other than the Farrow brake and the spoon brake, going back to 1897, and this account only runs down to May 1899. We want the books and papers that show the number of those made up to this date. These accounts refer to only one class.

At this point a recess is taken until 1 o'clock p. m.

MAY 31ST, 1901—1 o'clock p. m.

Hearing after recess.

Present: Messrs. Earle, Gittings, Worthington, Mackall and Osgood.

HENRY P. DOOLITTLE having first been duly sworn testified as follows:

By Mr. EARLE:

Q. Please state your occupation and residence? A. Attorney at law and solicitor of patents, 1815 19th street.

Q. Are you familiar with the applications for letters patent made by Willard N. Farrow, which are the subject of contract between the Eclipse Bicycle Company and the said Farrow? A. I am.

Mr. Earle objects to the accounts filed here by the defendant for the reason that they tend to embrace only the number of de-
334 vices made under two descriptions, namely, the Farrow brake and the Morrow spoon brake and no other, whereas the complainant demands an account for all of the brakes and coasters made by the defendant company embodying the principles of the invention of Willard M. Farrow described in his letters patent which are the subject of the contract of June 5th, 1897. What is omitted from the account or asked for in the demand, are brakes and coasters made by this company embodying the principles of Farrow's patents but not coming within the description of the spoon or Farrow brakes, what is commonly called the hub brake.

Q. Have you ever seen any so called bicycle brakes and coasters made by the Eclipse Bicycle Company involving the mechanical principles included in the Farrow devices, other than the spoon brake?

Mr. Worthington objects.

After some discussion the reference is adjourned to Saturday June 8th, 1901, at 10.30 o'clock a. m.

335 TUESDAY, *June* 11, 1901—2 p. m.

Hearing pursuant to adjournment.
Present: Messrs. Gittings, Worthington and Marshall.

By the AUDITOR: As I understand the situation the complainant offers to prove the manufacture and sale by the defendant of devices having a purpose similar to those described in Farrow's applications for patent, numbered 600,359 and 614,140. With this purpose in view, counsel placed upon the stand a patent expert for the purpose of proving the sale by the defendant of a certain device, a model of which was on view in the reference at the time. I infer from the arguments that it was not proposed to show that the said device corresponded with the improvements described in the two applications enumerated.

The agreement between Farrow and the defendant company as the basis of this proceeding, first recites that Farrow has invented certain improvements in bicycles and like vehicles for coasting and braking for which he has made applications for letters patent, numbered as before stated, and for which he intends thereafter to file additional applications; next that the defendant company is desirous of acquiring the entire interest in the inventions described in the said applications and any letters patent that might be issued thereon and any and all improvements that might thereafter be made by the said Farrow on said inventions; next, that for the considerations named Farrow sells, assigns and sets over unto the said company his entire right, title and interest in and to the inventions as fully described and claimed in the applications referred to

and any and all future improvements thereon; next, that
336 the defendant company agrees to pay to Farrow, his heirs or assigns, a royalty on all the devices made and sold embodying the invention above referred to.

All references in this agreement to the subject of the sale and assignment by Farrow to the company seem to be limited to the improvements described in the applications enumerated therein and any improvements that might thereafter be made by Farrow on the said inventions.

The original bill of complaint after describing citizenship and character of the parties avers that in November, 1895, the complainant conceived an invention of a bicycle device, being an automatic brake and coaster, described in applications for letters patent filed at certain dates (being the two applications before referred to;) that later the said invention was brought to the attention of the defendant company and that after certain negotiations the complainant made an agreement with the company for the sale of his interest in the said improvements, (being the agreement I have just described and contained in the exhibit to the bill of complaint and marked "A;") that the defendant began the manufacture and sale of the said brakes and had designated the same as the "Farrow automatic brake and coaster;" that thereafter one Morrow a member of said company and the general superintendent and manager thereof, filed an application for letters patent on a device in effect the same as that purchased by the defendant from the complainant, accomplishing the same result and being a mere mechanical equivalent therefor, and that under assignments of a portion of the said patent right the defendant began the manufacture and sale of the said device designated as the "Morrow brake and coaster;" that although the defendant agreed to protect and defend the patent rights of the complainant and to use due diligence in the manufacture and sale of his device, they had failed so to do, but had
337 substituted therefor another; the Morrow brake, being a mere mechanical equivalent; that the defendant in addition to sales of the Farrow brake and coaster had also sold a large number of similar devices substituted for the said Farrow device, and that the complainant is entitled to a discovery and accounting of the same.

The prayer of the bill is that the defendant may be required to account to the complainant, in accordance with the terms of the agreement, for the number of the original Farrow brakes manufactured and sold, and for the number manufactured and sold of the devices substituted by the defendant for the same.

The additional prayer is that any improvement or elaboration in the original device (being the subject of the said agreement) may be declared by the court to have been made by the defendant as the agent and partner of the complainant for the benefit of the partnership.

A supplemental bill was filed setting forth the main facts averred in the original bill as to the making of the agreement and new mat-

ter relating to the proceedings of the defendant with reference to the applications of Farrow pending in the Patent Office for letters patent and the prayer of this supplemental bill is substantially the same as the prayer for a decree of partnership or agency between the parties contained in the original bill.

It will be seen that the substantial averments of the bill of complaint are that the defendant has manufactured and sold numerous devices covered by the applications of Farrow for letters patent, and a large number of devices under the letters patent of Morrow, which it is averred are mere mechanical equivalents for the device and improvement described in the Farrow applications, and that the
338 complainant has been unable to procure from the defendant a discovery and accounting of the number of these two classes of devices so manufactured and sold by the defendant.

Upon this condition of the pleadings the decree of January 31, 1900, was made, that "the complainant is entitled to receive from the defendant royalties on the terms and in the manner expressed in the agreement of June 5, 1897, upon all the devices manufactured by the defendant company embodying the inventions mentioned in the Farrow applications for letters patent, and further, that the complainant is entitled to receive from the defendant company royalties upon devices manufactured by said company under letters patent granted to Alexander P. Morrow and numbered 611,073, and known as the Morrow brake and coaster. The decree refers the cause to the auditor to state the account between the parties in accordance with the decree.

It is an established rule that a decree is presumed to be based upon the pleadings in the cause and limited by the averments and prayers of the pleadings. Applying this rule, it seems to me that the intention of the decree was to limit the accounting to the devices covered by the applications of Farrow and by the Morrow patent. It is also fair to presume that the decree so far as it includes an accounting under the Morrow patent is based upon the averments of the bill that such device was substantially the same as that covered by the Farrow applications and, as stated in the bill, a mere mechanical equivalent therefor.

That this was the view of the decree and its limitations held by the Court of Appeals may be presumed from the expressions used in the opinion of that court on page 472 of 16th Appeals. After reciting the failure of the company to make returns and the institution of this suit, the court proceeds as follows:
339 "The proceeding resulted in a decree in his favor, the court holding that he was entitled to royalty from the company for the device manufactured by it under the Morrow patent as well as for those professedly manufactured or intended to be manufactured under the contract between the company and Farrow."

The result of my examination of the pleadings and decree brings me to this conclusion; that if counsel for the complainant intend to prove that the device sought to be introduced in evidence here and termed by the counsel the hub brake is covered by either of the

two Farrow applications numbered 600,359 and 614,140 or by the Morrow patent, I consider the evidence competent and it will be received, but unless such is their intention the evidence cannot be considered as relevant.

340 WEDNESDAY, *June 26th*, 1901—10.30 a. m.

Hearing pursuant to notice.

Present: Messrs. Earle, Gittings, Worthington, Mackall and Osgood.

HENRY P. DOOLITTLE having been called for further direct examination testifies as follows.

By Mr. EARLE:

Q. Have you ever seen any so called bicycle brakes and coasters made by the Eclipse Bicycle Company involving the mechanical principles included in the Farrow devices, other than the spoon brake?

Counsel for the defendant objects to this question on the ground that under the decree by which this case is referred to the auditor the complainant is confined to evidence relating to the specific device set out in his application, described in his bill of complaint and referred to in his evidence, and which has been termed the Farrow spoon brake, and to machines manufactured under the Morrow patent No. 600,073.

Counsel for the complainant calls attention to the fact that the applications are two in number and not limited to the devices described and contain both the spoon brake and the hub brake.

Q. Will you please state how many, if any, coaster brakes you have seen, made by the Eclipse Bicycle Company, the mechanical principles of which are included in the applications filed by Mr. Farrow in this case?

Mr. Worthington objects.

Objection is sustained.

Mr. Worthington objects to going into the matter of the construction of the devices until it has been proved that the company has manufactured the articles.

Q. I hand you a brake and coaster device known as the
341 Morrow automatic brake and coaster and ask you if you are familiar with that device and know whether or not it is offered for sale?

Mr. Worthington objects on the grounds that the question should be whether it has been sold by the Eclipse Bicycle Company.

Q. And if you know who manufactures those devices, and if any of these have been sold by the Eclipse Bicycle Company? A. I am familiar with the device known as the Morrow automatic hub

brake and coaster, and have seen the same offered for sale at bicycle shops, and have been informed there that they were made by the Eclipse Bicycle Company.

Mr. Worthington objects as to what the witness has been informed and moves to strike out that part of the answer.
The objection is sustained.

Q. I hand you a placard or advertisement and ask you what device is shown on there?

Mr. Worthington objects because the question calls for wholly immaterial testimony, and for the further reason that it appears upon the placard which is exhibited to the witness and referred to in the question, that the device there referred to is manufactured not by the Eclipse Bicycle Company but by an entirely different corporation, the Eclipse Manufacturing Company.
The objection is sustained.

At this point in the hearing a recess is taken until 11.30 o'clock a. m.

342 JUNE 26TH, 1901—11.30 o'clock a. m.

Hearing after recess.
Present: Counsel for both parties.
The examination of Mr. Doolittle is suspended for the present.

GEORGE A. YOUNG having first been duly sworn testifies as follows.

By Mr. EARLE:

Q. Where do you live? A. 811 G street northwest.
Q. What is your business? A. Bicycles, repairs and sundries.
Q. What do you mean by sundries? A. Parts that go to make up bicycles, wheels and parts such as lamps, brakes, &c.
Q. Please state whether you are familiar with the Morrow automatic hub brake and coaster? A. I am.
Q. Will you please state what this device which I hand you is? A. It is what is known as the Morrow automatic hub coaster brake manufactured by the Eclipse Bicycle Company now known as the Eclipse Manufacturing Company.

Mr. Worthington moves to strike out so much of the answer as is not responsive to the question.
Motion granted.

Q. Will you please state whether you have ever bought any of the devices you have just mentioned, and from whom? A. Yes sir, I bought the first six of those Morrow brakes from the Eclipse Bicycle Company of Elmira New York, and have since bought from a Mr. Richwine of Philadelphia, Pennsylvania. The last year
343 I have bought from people here in Washington.

Mr. Worthington objects to so much of the answer as relates to buying from people in Philadelphia and from people here in Washington as they are not shown to be sold by the Eclipse Bicycle Company, and so far as the answer relates to purchases made from the Eclipse Bicycle Company because no device which the witness purchased from the Eclipse Bicycle Company is shown to be manufactured by the Eclipse Bicycle Company; also that the witness does not state conclusions when he states the purchases from the Eclipse Bicycle Company.

The auditor states that so much of the witness's answer as relates to purchases from the Eclipse Bicycle Company is competent.

Q. Did you ever have any correspondence with Mr. Richwine of Philadelphia? A. Nothing of a personal nature. I received several circulars from him, and also bought some brakes from him.

Mr. Worthington states that all this evidence is given subject to objection and exception.

Q. Will you please state what this communication is? (Hands witness a paper.) A. It is a circular which I received from the Philadelphia branch of the Eclipse Bicycle Company on November 27th, 1899, a circular of the Morrow automatic hub coaster and brake.

Q. What are the other papers which I hand you? A. An envelope addressed to George A. Young dated November 27th, 1899, from Philadelphia, containing a circular of the Eclipse
344 Bicycle Company showing illustration of the Morrow coaster brake.

Mr. Worthington objects on the ground that no sufficient evidence has been produced to show that their sending was authorized by the defendant, and because there is no competent evidence here that Mr. Richwine is or was the agent of the Eclipse Bicycle Company and authorized to act for it in any way. Also upon the ground that there is nothing to connect the circulars with the envelope.

Q. Are you acquainted with Mr. Richwine? A. I am.

Q. What is his business? A. So far as I can understand he is a travelling agent for the Eclipse Manufacturing Company.

Mr. Worthington objects on the ground that it is immaterial whether he acts for the Eclipse Manufacturing Company and so far as the witness states that he understands.

The objection is sustained.

Q. I hand you these two letters which I offer in evidence, and ask you what they are?

Mr. Worthington objects for the reason that the letters show on their faces what they are for.

Objection is sustained.

Q. I hand you two letters appearing to be written by H. W. Richwine, and ask you if you ever saw them before? A. I have.

Q. When and where did you see them? A. The first one, December 16th, 1899 is in answer to a communication I addressed to the manager of the Eclipse Bicycle Company at Philadelphia.

Mr. Worthington objects.

Q. What is the second one? A. The second one is a letter which I received from the manager of the Philadelphia branch of
345 the Eclipse Bicycle Company, stating that they had on hand a stock of Eclipse lamps.

Mr. Worthington objects because the witness is stating as a fact that the person is acting as manager.

The auditor states that the letters will be filed subject to objection and for further proof.

Q. Will you please state what the paper I now hand you is?

Mr. Worthington objects.

Objection is sustained.

Q. I hand you a communication from B. L. Whittier, and ask you if you have seen that before? A. I have. It is a communication received from the Eclipse Bicycle Company of Elmira, New York, dated August 3d, 1899.

Mr. Earle offers the paper in evidence.

Mr. Worthington objects on the same grounds as before.

Q. I hand you two checks and ask you if that is your signature? A. That is.

Mr. Earle offers the two checks in evidence.

Mr. Worthington objects on the same grounds as apply to the other papers and also because it is absolutely immaterial to anything before the auditor.

Objection is sustained.

Q. The checks are numbered 101 and 105, drawn in favor of the Eclipse Bicycle Company. State what these checks were given for. The dates are, No. 101, August 2d, 1899, and No. 105, September 2d, 1899, both *ofr* the sum of $14.70 each. A. Each one was in payment for three Morrow coasters and hub brakes purchased from them on those dates.

346 Q. Are you acquainted with the mechanism of these devices? (Hands witness the Morrow brake and coaster formerly shown to him.)

Mr. Earle offers the brake in evidence and it is marked Exhibit E, 10.

Q. I hand you Exhibit E–10 and ask you to state what it is. A. This is what is known as the Morrow automatic hub coaster and brake manufactured by the Eclipse Bicycle Company of New York.

Q. You are familiar with the mechanism of that device? A. I am.

Q. State whether there is any difference between that device and the one you bought from the Eclipse Bicycle Company.

Mr. Worthington objects because the witness is not shown to be qualified to testify, and also because it is not shown that that device was purchased from the Eclipse Bicycle Company.

Objection is sustained.

Q. Please state where this device, Exhibit E–10 came from. A. Elmira, New York.

Mr. Worthington objects because it does not appear whether the witness is giving personal information or hearsay.

Q. Where did you get it? A. From C. S. Kessler 605½ E street, northwest.

The objection is sustained to all answers of the witness as to where this device came from except that he purchased it from C. S. Kessler.

Q. Will you please state if you have ever bought any other devices exactly like that, and from whom?

Mr. Worthington objects on the grounds that other devices should be here to see whether they are alike or not.

347 Hearing is adjourned to Thursday, June 27th, 1901, at 10.30 o'clock a. m.

THURSDAY, *June 27th*, 1901—10.30 a. m.

Hearing pursuant to adjournment.

Present: Messrs. Gittings, Osgood, Worthington and Mackall.

GEORGE A. YOUNG having been recalled for further examination testifies as follows:

By Mr. GITTINGS:

Q. You have testified that you are a dealer in bicycles and sundries? A. Yes sir.

Q. And you have testified that you had purchased from the Eclipse Bicycle Company of Elmira, New York, a device known as the Morrow automatic hub coaster and brake? A. Yes sir.

Q. Have you one of those devices here that you purchased? A. I have,

Q. Where is it?

Witness produces a bicycle wheel with the device attached to it.

Mr. Gittings offers the device in evidence.

Mr. Worthington objects on the grounds that it is not the same device described in the Farrow applications, and because it is not within the scope of the reference to the auditor.

The auditor states that the device may be filed as an exhibit subject to further proof and to the matters raised by the objection.

Mr. Gittings states that Exhibit E No. 9 will be withdrawn and this exhibit substituted in its place and marked Ex-
348 hibit E–10.

Q. When did you purchase that device from the Eclipse Bicycle Company? A. It was ordered by me August 4th, 1899. I received an acknowledgment of the order from them accepting it, on August 5th, 1899, by postal card.

Cross-examination.

By Mr. WORTHINGTON:

Q. How long have you known Mr. Farrow?

Mr. Gittings objects.
The objection is overruled.

A. Since 1895.
Q. Have you known him intimately during that time? A. Yes sir.
Q. Have you had any business relations with him? A. Not much.
Q. In a general way? A. We have had some business relations, but our relations were more of a social nature, I became interested in the Farrow brake.
Q. Have you any interest in the patent? A. No sir.
Q. Have you had any financial dealings with Mr. Farrow? A. No sir, none whatever.
Q. You say that you bought this Exhibit E–10 from the Eclipse Bicycle Company. Where were you when you purchased it? A. At No. 811 G street, northwest.
Q. Was your purchase conducted by written communication? A. By written communication direct with the factory.
Q. Did you retain a copy of your communication to the company?
A. That is something we rarely do. We wrote the order
349 on one of their order sheets which they sent me.
Q. Have you a copy of the reply? A. Yes, sir, the postal card acknowledging the receipt of my letter.
Q. Let me see it please?

Witness hands postal card to Mr. Worthington.

Q. Do you mean to say that you did not receive any other communication from them in regard to this alleged purchase, other than this postal card? A. Coming to look over the matter I find that they made a mistake. The check that I sent them is dated August 2d, 1899, and they say my order of the 4th. I always send a check with each of my orders.
Q. What mistake have they made? A. A mistake in the date, they call it my order of the 4th, which should have been the 2d.
Q. Did you make any other purchases from them about this time? A. The next purchase I made was in September.

Q. Did you make any in the summer of 1899 except this? A. So far as I can remember I cannot say that I did. I think that was the first purchase I made from them direct and sent my check.

Q. What check do you refer to? A. The check of August 2d, 1899.

Mr. Worthington offers in evidence the postal card dated August 5th, 1899 to which the witness has referred in his evidence. It is marked Exhibit Young No. 1.

Redirect examination.

By Mr. GITTINGS:

Q. Examine this Exhibit E–No. 7 and state whether that is
350 the check you have reference to? A. Yes sir, that is the check.

Q. I hand you Exhibit E–No. 6, and ask you whether you received that from the Eclipse Bicycle Company? A. I did.

Q. You stated that you purchased goods from them. Did you receive a notice from the order department of the shipment of these brakes at that time? A. Nothing more than the bill and receipt.

Q. Have you that receipt? A. Yes sir. (Witness hands bill to counsel.)

Mr. Worthington objects to the bill as not proving anything.

Mr. Gittings offers in evidence the statement rendered by the Eclipse Bicycle Company to Mr. Young of his order for three Morrow hub coasters and brakes, which contains the number of those brakes shipped and also contains the number of this brake already offered in evidence, and it is marked Exhibit E.–12.

Q. Have you the envelope that it came in? A. I have.

Mr. Worthington makes the same objection to the envelope as has been made to the letter.

Q. Examine that bill and examine the number on Exhibit E–No. 10? A. The number on Exhibit E–No. 10 is 470, the numbers of the brakes mentioned in this bill are B–469, B–470, and B–471.

HENRY P. DOOLITTLE having been recalled for further examination testifies as follows:

By Mr. GITTINGS:

Q. I hand you a certified copy of the Farrow application filed in the Patent Office, described as the file wrapper and contents excepting paper No. 2, filed July 24, 1896, serial number 600,359.
351 Just examine that. I also hand you a certified copy of the drawing accompanying the said application.

Mr. Worthington objects to the paper being shown to witness or referred to because it is not in evidence.

Objection is sustained.

Q. Have you examined the application and drawing which is in evidence (referring to exhibit marked W. M. F. 3 & 4)? A. I have.

Q. State the character of the device you find therein set forth?

Mr. Worthington objects for the reason that there is no use for expert testimony in this case at this time, as it is a general rule that an expert cannot be called upon to give an opinion upon what the court is to decide.

Q. I hand you Exhibit E–No. 10, which is the Morrow hub coaster and brake——

Mr. Worthington objects to counsel testifying that this is the Morrow hub coaster and brake.

Objection is sustained.

Q. I hand you Exhibit E–No. 10. State whether you find that described in detail in the Farrow application No. 600,359?

Mr. Worthington objects to the question as immaterial and incompetent.

The objection is overruled.

A. In order to find whether this brake shown as Exhibit E–No. 10 is substantially contained in the application of Farrow, No. 600,359, it is necessary to compare the two devices, that is, the device set forth in this brake, this exhibit, and the devices set forth in the application. I find that in both these devices there is embodied a brake and coaster mechanism adapted to be applied to the hub of the rear or driving wheel of a bicycle. In the ordinary
352 bicycle the brake is applied by hand through pressure on a lever which connects with arms that move a spoon against the tire of the wheel. In both these devices I find mechanisms in the nature of devices for permitting instant cessation of the active pedalling without removing the feet from the pedals, the bicycle continuing in the meantime in motion without shock or jar, to go on of its own momentum, and also having a brake that is operated by the pedals whereby the absolute control of the brake is maintained at all times.

Q. Are you reading from a memorandum? A. No sir, not directly, I have notes here of the matter. *A.* (Continuing:) So that upon a backward pressure applied to the pedals by the feet a powerful brake action can be applied. I also find that in both devices the entire braking and coasting mechanism is placed right upon the hub of the rear or driving wheel. The object of so placing this brake and coasting mechanism——

Mr. Worthington objects to the witness stating the object of this braking and coasting mechanism.

The objection is overruled.

A. (Continuing:) The object of so placing this mechanism is to avoid the ordinary wear and tear of the usual form of spoon brake, which is applied directly to the rubber tire of the bicycle, and also to obtain a greater braking power by securing the contact between two hard surfaces as distinguished between the yielding rubber tire and spoon brake, and also to obtain greater leverage by the force applied through the pedals and the chain. And also to have the coasting mechanism and the braking mechanism so placed relatively to each other that they will occupy but little space and co-
353 operate in their action. In both these devices I find, referring first to the Exhibit W. M. F. 4, a sprocket wheel loosely mounted on the hub but so as to engage with the hub when the chain is driven forward, and adapted when the feet, pedals and chain are held still to be also held still on the hub, permitting the hub to revolve forward. The loose engagement between the sprocket and hub permitting this forward movement of the hub as long as the pedals are held still. When desired to operate the brake back pedalling is done, the pedals held backwards, when the sprocket wheel is moved backward on the hub it carries with it a moveable piece which is connected thereto and wedges this piece which is indicated by the letter large D in the drawing, against the hub.

Q. You are testifying now as to what is shown by the Farrow drawing in evidence? A. Yes sir. Now taking up the Exhibit E–No. 10 and comparing it with the device which I have just described as set forth in the application, No. 600,359, I find that as stated in the previous sentence that the sprocket wheel of the rear driving wheel is loosely mounted on the hub but so as to revolve with the hub when the pedals and chain are driven forward, and adapted to be held still when the pedals are held still, so that the hub may revolve freely under the sprocket wheel and the rider is thus permitted to coast without removing his feet from the pedals. I also find that when it is desired to apply the brake this is adapted to be done by pressing backward the pedals which carry back the chain, which movement carries back the sprocket wheel on the hub relatively thereto, and the sprocket in turn wedges a piece connected thereto against the hub so as to apply frictional contact and effect braking action.

354 Q. State whether or not you find that this Exhibit E–No. 10 is substantially the same as that described in Exhibit W. M. F. 3?

Mr. Worthington objects.

Objection is sustained.

Q. In the application of these two brakes to engage the chain are there any points of similarity in the act of coasting? A. I do not understand the question clearly.

Q. I mean the operation of the chain when the rider is coasting? A. The operation of the chain is identical in both devices.

Q. How about the pedals? A. The operation of the pedals is identical.

Q. With reference to the rear sprocket wheel? A. I have already compared these two devices in regard to the sprocket wheel and have stated that in both the sprocket wheel was so mounted on the hub as to engage with the hub when the sprocket wheel was driven forward, and to be disengaged from the hub when the sprocket wheel is held still so that the hub can revolve forward freely under the sprocket, when the pedals and chain are driven forward again in the act of forward pedalling the sprocket wheel again engages with the hub or is bound against the same and revolves with and drives the hub.

Q. State what constitutes the braking power in both of these brakes? A. The braking power lies in the effect produced by the frictional contact between the hub and another part which is wedged against the hub by the backward movement of the sprocket.

Mr. Worthington objects to all of the witness's testimony
355 which is a comparison of these two devices, on the ground that it is immaterial, irrelevant and not within the scope of the reference to the auditor, and it is moved that it be stricken out.

The auditor denies the motion to strike out the testimony and overrules the objection.

The hearing is then adjourned to Saturday, July 6th. 1901, at 10 o'clock a. m.

356 FARROW
vs.
ECLIPSE BI. CO.

FRIDAY, *October 25th*, 1901—10 a. m.

Hearing pursuant to adjournment.

Present: Messrs. Earle, Gittings, Mackall, Worthington, and Osgood.

J. NOTA MCGILL having first been duly sworn testifies as follows.

By Mr. EARLE:

Q. Please state your name, residence and occupation? A. J. Nota McGill, Washington city, attorney at law in patent cases.

Q. What experience have you had in the practice before the Patent Office? A. I have been practising for the past fifteen years or more, during which time I have prepared and prosecuted a vast number of applications for patents. I have devoted my time almost exclusively to that branch. I have experience in patent specifications and drawings, inquiries into the arts, and I have also practised before the Federal courts in patent cases.

Q. Have you read and do you understand the application for letters patent No. 600,359 applied for by Willard M. Farrow, which

is the subject of the contest between him and the Eclipse Bicycle Company? A. I have and I do.

Q. I hand you Exhibit E No. 10. State whether you find in it the general characteristics of a device operated on the principles of the invention mentioned in application No. 600,359, please answer fully.

Mr. Osgood objects to the question as immaterial, irrelevant and not being within the terms of the decree.

357 The auditor states that he will not pass upon the objection at this time.

A. I find in the application of Mr. Farrow a device to be applied to the hub of the rear carrying wheel of a bicycle, which device comprehends means for coasting and for the application of a brake from which said means being under the control of the rider or operator through the instrumentality of the pedals. In other words the device comprehends means whereby when the rider or operator desires to coast he may do so without the necessity of removing his feet from the pedals, holding with the feet, steady the sprocket chain or wheel will cease to revolve and the carrying wheel will continue to move from its momentum. On the other hand when he wishes to operate the brake the operator by backward pressure on the pedals will effect the application of the brake to prevent further advance movement of the bicycle. Referring now to Exhibit E. No. 10, I find therein means whereby the same ends may be accomplished, that is I find in this exhibit a coaster and brake mechanism mounted on the hub of the rear carrying wheel, the means of braking or coasting being brought into play when the rider or operator holds the pedals as against further revolution, while on the other hand the brake is applied by back pedalling as stated before. These are the general characteristics as I understand it.

Mr. Earle announces the direct examination of this witness closed.

The answer of the witness is objected to as incompetent, irrelevant, and not within the terms of the decree referring this matter to the auditor.

Cross-examination is waived.

358 WILLARD M. FARROW having first been duly sworn testifies as follows:

By Mr. EARLE:

Q. Did you ever make a working model of the device described in your application for letters patent No. 600,359?

Objected to as immaterial.

Mr. Earle states that the makes this question for the purpose of showing that this device has been reduced to use and that it had

been in use and was perfectly practicable, and operates exactly as stated in the application. Mr. Earle states that it can be presented here at any time before the auditor if he should require it. Mr. Earle further states that he is ready to put the model in evidence but is offering it only for the auditor's convenience and is willing to leave it here.

The model is then produced.

The auditor states that he will consider the offer of the model here for the purpose of evidence more than anything else when that model is ready to be laid on the witness table.

The auditor states that he will let the witness answer the question did he make such a model.

WITNESS: Yes sir, I did make a model.

Mr. Osgood objects.

Q. When? A. Some months previous to the application for a patent.

359 Q. Have you that model here? A. Yes sir.

Q. Please produce it?

Mr. Osgood objects.

Witness produces the model and it is offered in evidence.

Mr. Worthington objects to this exhibit upon the grounds of immateriality, irrelevancy to the issues before the auditor; also because the testimony does not relate to any matter within the scope of the reference to the auditor; finally because there is no evidence that the existence of this alleged model was known to the defendant company when it entered into the contract with Mr. Farrow upon which this suit is based, and that the rights of the parties under that contract must be governed by the contract and the applications referred to in the contract, and cannot be affected by bringing in another matter which was, so far as the evidence shows, concealed in the breast of Mr. Farrow.

The objection to the introduction of this instrument is sustained.

Mr. Earle announces that the direct examination of this witness is closed.

Mr. Earle also announces his side of the case as closed.

The hearing is then adjourned to Saturday, November 2d, at ten o'clock a. m., at which time a date will be fixed at which the testimony of the witnesses to be produced by the defendant will be heard.

360 WASHINGTON, D. C.,
FRIDAY, *November* 22, 1901—10.30 o'clock a. m.

The hearing of the case of Farrow *vs.* The Eclipse Bicycle Co. was resumed, before the auditor, at the above date and hour.

Present on behalf of the complainant, Henry M. Earle, Esq., and John C. Gittings, Esq.

Present on behalf of the defendant, A. S. Worthington, Esq., Howard L. Osgood, Esq., and Douglass S. Mackall, Esq.

ARTHUR S. BROWNE, a witness called on behalf of the defendant, having been duly sworn, testified as follows:

By Mr. OSGOOD:

Q. State your name, residence and occupation, Mr. Browne. A. Arthur S. Browne; Washington, D. C.; patent solicitor and expert.

Q. Please state your experience in patent matters, especially with reference to comparing mechanisms and pointing out the resemblances and differences, whether said mechanisms are embodied in machines or in drawings, and generally your qualifications as an expert. A. I was graduated from Dartmouth college, Hanover, New Hampshire, in 1881; and in the following year I entered my present profession, in which I have since been actively and
361 continuously engaged. During this entire period I have been constantly engaged in the preparation of applications for patents, making investigations into the prior art for the purpose of determining the novelty, scope and validity of letters patent, and in comparing structures with patents with a view of giving opinions on the question of infringement. I have frequently visited workshops and factories for the purpose of familiarizing myself with mechanical matters. I have frequently testified as an expert witness in the various United States courts, having testified in more than one hundred such cases. These suits have all been suits for the infringement of letters patent, and have involved a large variety of mechanical subjects.

Q. I hand you "Complainant's Exhibit No. 3, W. M. F.," and "Complainant's Exhibit No. 4, W. M. F." Please state whether you have examined and understand these exhibits? A. I have, and do.

Q. I hand you "Exhibit E–10." Please state whether you have examined and understand this exhibit? A. I have, and do.

Q. State the character of the device you find set forth in Exhibits Nos. 3 and 4, W. M. F.; also state whether you find Exhibit E–10 described in detail in said Exhibits 3 and 4, giving your reasons therefor? A. For the sake of brevity, I will refer to Exhibit No. 3, W. M. F., and Exhibit No. 4, W. M. F., as "the Farrow hub-brake application." I do not find that Exhibit E–10 is described in detail in the Farrow hub-brake application; nor does said Exhibit E–10 have any substantial feature of invention which is em-
362 bodied or embraced or set forth in said application. The Farrow hub-brake application sets forth and describes a coaster and back-pedaling brake for a bicycle and other like vehi-

cles, two different constructions being illustrated and described. It will be convenient to refer to these two constructions independently, because in many respects they are radically different. I will accordingly first refer to the construction which is illustrated in Figs. 1, 2 and 5 of the drawings of the Farrow hub-brake application, and will then subsequently refer to the construction shown in Figs. 3 and 4 of said drawings. In the construction shown in Figs. 1, 2 and 5 of the Farrow hub-brake application drawings, the mechanism for coasting and for securing the braking action through back-pedaling is characterized by a sprocket-wheel which receives power from a sprocket-chain driven in the usual way by pedals, and another sprocket-wheel on the pedal-shaft; and this driven sprocket-wheel has a sliding axial movement on the hub of the rear wheel of the bicycle. When this sliding sprocket-wheel is moved inwardly and is rotated by the driven sprocket-chain, it becomes clutched to the hub of the rear wheel by the action of a screw-clutch operating like an ordinary screw. That is to say, when the sprocket-wheel is rotated forwardly, it screws into the adjacent portion of the wheel hub, thereby becoming locked thereto. Consequently, the further rotation of the sprocket wheel in the same direction carries with it the hub, and consequently the rear-wheel, thus driving the bicycle.

If, however, the rider of the bicycle or other vehicle desires
363 to coast—that is to say, to permit the vehicle to continue its onward movement, and without removing his feet from the actuating pedals—he simply stops rotating the pedals, and holds his feet on the same. As the result, the sprocket-wheel on the rear wheel stops its rotation, and the wheel itself continues to revolve. As the result of the sprocket-wheel being thus stationary and the continuation of the rotation of the wheel, the sprocket-wheel and the hub become unscrewed from each other, during which unscrewing movement the sprocket-wheel slides axially outward, away from the screw-threaded face of the hub. As soon as the sprocket-wheel is thus cleared from clutching engagement with the hub by means of its outward axial movement, the wheel rotates freely without any resistance to such rotation being offered by the then stationary sprocket-wheel. If, now, the rider of the wheel desires to apply a brake for the purpose of stopping the wheel, he "back-pedals;" that is to say, he applies pressure to the pedals of the velocipede in the opposite direction to that in which he would apply pressure in case he wished to drive the wheel. As the result of this back-pedaling, the sprocket-wheel on the rear hub is rotated backwardly; and as the result, a projection which is carried thereby is brought into contact with a stationary portion of the frame of the velocipede. This projection is lettered "*d*'" in Fig. 1 of the drawings of the Farrow hub-brake application. When the bicycle is being propelled in the usual way, this projection carried by the sprocket-wheel has no effect, because the sprocket-wheel, being then moved axially in toward the portion of the hub which carries the screw-
thread, is far enough away from the fixed frame of
364 the velocipede so that said projection runs entirely clear therefrom. The outward axial movement of the sprocket-

wheel, however, which disengages the sprocket-wheel from the hub, at the same time brings this projection into register with the fixed frame. Consequently when the sprocket-wheel is rotated backwardly, this projection comes in contact with the fixed part of the bicycle frame, which thus affords a stop to prevent further backward rotation of the sprocket-wheel. As shown in Figs. 2 and 5 of the drawings, this projection to which I have referred is not immediately connected to the sprocket-wheel, but it is a projection extending from one end of a band-brake or brake-spring (shown in detail in Fig. 5); and the other end, *d*, of this brake-band or brake-spring is connected securely to the sprocket-wheel. This brake-band or brake-spring normally occupies a recess within the bore of the sprocket-wheel, and hence between the sprocket-wheel and the portion of the hub on which the sprocket-wheel turns, and ordinarily when the bicycle is being driven (or is coasting) this brake-spring or brake-band is held expanded by its own elasticity so as to rotate freely with the sprocket-wheel, and to afford no substantial frictional bearing upon the hub. When, however, the projection *d'* referred to has been brought into contact with a fixed part of the frame of the velocipede as the result of a partial backward rotation of the sprocket-wheel, further backward rotation of said sprocket-wheel causes such brake-spring or brake-band to become firmly clamped to the surface of the hub. This is due to the fact that one end of the brake band or spring is prevented from movement, while the other end is moved by the further rotation of the sprocket-wheel, so that the brake-band or brake-spring is thereby contracted or drawn tightly around the hub. As the result of this action, the braking friction is applied to the hub of the rear wheel; and as the consequence, the rotation of the wheel is retarded, and may be entirely stopped. It will thus be seen that the action of the mechanism thus far referred to of the Farrow hub-brake application is characterized by a sprocket-wheel which is capable of sliding axially or lengthwise on the hub. When slid inwardly, it is clutched to the hub in order to drive the velocipede. When, however, it is slid outwardly, it becomes unclutched from the hub, and the hub and hence the velocipede is free to coast. When, however, the sprocket-wheel is then rotated backwardly, the brake is applied. The device is further characterized by the circumstance that the brake-spring or brake-band is carried by the sprocket-wheel itself so as to rotate with the sprocket-wheel during the driving of the velocipede, and also so as to partake of the sliding axial movements of the sprocket-wheel, this being necessary in the construction shown, since as the result of the outward sliding of the sprocket-wheel the projecting end of the brake-band is brought into proper register with a fixed part of the frame of the velocipede so that the movement of the brake-band may be arrested, and the braking pressure may be applied. It will be noted that in order that the bicycle may be again driven after the brake has been applied, it is necessary to again move the sprocket-wheel inwardly

365

along the hub in order that the screw-clutch members on the
366 sprocket-wheel and hub, respectively, may be brought into engagement, and in order, furthermore, that the projection d' on the brake-spring may be moved away from the frame. The means relied upon in the mechanism set forth is the propelling sprocket-chain which extends from the pedal-shaft worked by the rider of the machine back to and around the sprocket-wheel on the rear hub. It will be noted that if the sprocket-wheel on the rear hub and the sprocket-wheel on the pedal-shaft are directly in line with each other during the ordinary propelling of the bicycle, then when the sprocket-wheel on the rear wheel is slid outwardly in order to be unclutched from the hub and in order to apply the brake by back-pedaling, thereby the driving sprocket-chain is brought into an angular position. In other words, it no longer runs in a straight plane from one sprocket-wheel to the other; but it runs at an angle from one to the other, due to the outward sliding of the rear sprocket-wheel. This being the case, when forward pedaling is resumed in order to drive the bicycle or other velocipede, the chain strongly tends to bring itself straight under the driving tension, and thereby moves the rear sprocket-wheel inwardly, so as to again clutch with the hub. This angular disposition of the chain when the velocipede is coasting or the brake is applied is an important feature in the construction shown, since it is necessary in order to enable the sprocket-wheel to be again clutched to the hub when it is desired to again drive the velocipede. An important detail I have not yet referred to. As set forth in the application, the projection d' of the brake-
spring does not come in contact with an entirely immovable
367 portion of the frame of the bicycle or other velocipede, but simply comes in contact with a portion thereof which is incapable of moving in the direction in which said projection is moved by the rotation of the sprocket-wheel. As a matter of fact, this portion which is struck by said projection is a spring-latch, which is lettered e in Fig. 1. This latch is so arranged that it only obstructs the movement of the said projection d' on the brake-spring during back-pedaling—that is to say, when the sprocket-wheel is being rotated in such direction as to apply the brake. Obviously, if the part e was incapable of any movement whatsoever, it might be impossible to again propel the wheel when the brake had been once applied, because on attempting to rotate the sprocket-wheel forwardly the projection d' on the brake-spring would, when turned around one revolution (or, rather, a little short of one revolution) again come in contact with the other side of said part e, thereby preventing forward rotation of the sprocket-wheel; and if this occurred before the tension of the chain had moved the sprocket-wheel inwardly far enough to cause the projection d' to run clear of the part e, then the velocipede could not be propelled. Accordingly, the part e is arranged as a spring-latch, so that when the sprocket-wheel is turned in the direction to drive the machine, said latch will spring outwardly and permit the projection d' to pass by. The mechanism thus far re-

ferred to and illustrated in Figs. 1, 2 and 5 of the Farrow hub-brake application, is illustrated in the model which I now produce, and which is marked "Farrow No. 1 model," and which has been
368 recently made for the purpose of this illustration. This model has a hub which is provided with a sprocket-wheel and brake-band similar to what is set forth in the Farrow hub-brake application. The hub has the letter "A" painted upon it; and the sprocket-wheel has the letter "P" painted thereon. Also, the model is equipped with a sprocket-chain for driving the sprocket-wheel *P*, said chain being operated by a hand crank; and the hub is provided with a weighted wheel. The chain is provided simply as a means of applying power to the sprocket-wheel *P*, and the weighted wheel is simply to give the necessary momentum when the driving power is stopped. This model illustrates the characteristic action of the Farrow brake. When the handle is turned in the proper direction, the sprocket-wheel slides axially inward, and becomes clutched to the hub. If then the handle is stopped, the hub continues its rotation, under the impetus of the fly-wheel; and, as the result, the sprocket-wheel becomes unscrewed therefrom, moves radially outward, and brings a projection on a brake-spring or brake-band attached to the sprocket-wheel outwardly into register with a spring-latch carried by the stationary frame. If then the handle is turned backwardly, the said projection comes in contact with said latch; and then further turning of the handle contracts the brake-spring, and applies the brake, thereby stopping the further rotation of the hub. The mechanism of Exhibit E–10 is substantially unlike the mechanism of Figs. 1, 2 and 5 of the Farrow hub-brake application in construction, organization and mode of operation. To aid in the description of Exhibit E–10, I have here a
369 coaster and brake mechanism like said exhibit, except that portions have been cut away so as to enable the different portions to be examined and their relation to each other understood. This is marked, for identification, "Defendant's model No. 1." I have also another model containing a portion of the same parts, these parts being the main operative parts which enable the functions of driving, coasting and braking to be accomplished. This last model is marked "Defendant's model No. 2." These models have been recently made, and are produced here simply to aid in the description of Exhibit E–10. The mechanism of these models is the same as the mechanism of said Exhibit E–10, the operative parts are the same, and they have the same substantial organization, construction and mode of operation. In Exhibit E–10 the sprocket-wheel on the rear wheel of the bicycle is capable of turning upon the hub of the rear wheel, but it has no axial or longitudinal movement on said hub. Whatever effect is produced, whether in driving, coasting or braking, is produced, as far as the sprocket-wheel is concerned, by its rotation forward or back, or by its being held stationary. It has no sliding movement axially along the hub for the purpose of performing any of the aforesaid operations of coasting, driving or braking, thus lacking that characteristic of the Farrow

device already considered which is essential to the performance of the driving, coasting and braking operations of said Farrow device. In order to drive the bicycle or other velocipede equipped with mechanism like Exhibit E–10, the sprocket-wheel on the rear hub is driven forwardly in the usual manner. The effect of this
370 forward movement is to cause the sprocket-wheel and the hub to be clutched together so that thereafter they rotate together, thus driving the bicycle. The manner in which this is effected is clearly shown in defendant's model No. 2. As there shown, the sprocket-wheel on its inner face has some cam-inclines which co-operate with corresponding cam-inclines on a clutch ring which is marked "A" on said defendant's model No. 2. When the sprocket-wheel is rotated forwardly, its cam-inclines ride upon the cam-inclines of the clutch ring, thereby forcing said clutch ring inwardly, and thereby causing the interior surface of said clutch ring, which is properly shaped for that purpose, to frictionally grasp the surface of the hub which it surrounds. As the result of this frictional grasp, the said clutch ring is securely clutched to the hub, so that as the sprocket-wheel continues to rotate the hub rotates with it. When, however, it is desired to coast, the rider keeps his feet on the pedals and stops pedaling, so that thereby the sprocket-wheel on the rear hub stands still. The rear hub, however, keeps on rotating as the result of the momentum of the wheel, the effect of which is to carry the cam-inclines of the clutch ring forwardly so that they cease to have firm engagement with the cam-inclines on the sprocket-wheel, so that the clutch ring thereby becomes loose, and the hub turns freely within it. The clutch ring thus operated by the cam-inclines on the sprocket-wheel constitutes an efficient friction clutch, which permits the driving of the velocipede, and at the same time permits free coasting when the rider stops pedaling.

Suppose, now, the rider desires to apply the brake and
371 to thereby check the momentum of the velocipede, or stop the same. To do this he back-pedals, thereby tending to turn the sprocket-wheel on the rear hub backwardly. The effect of this backward rotation of the sprocket-wheel is to cause the square shoulders of its cam-inclines to come into contact with the square shoulders of the cam-inclines on the clutch ring marked "A" in defendant's model No. 2. As the result, said clutch ring is rotated backwardly, but it is not forced inwardly, so that it then has no clutching effect upon the hub. As the result of this backward rotation of the clutch ring *A*, cam-inclines on its inner edge come in contact with cam-inclines on a brake ring which is lettered "B" in defendant's model No. 2. As the result of this action, said brake ring is forced axially inward. This brake ring is arranged within a hollow conical brake-shoe, which is connected by a projecting arm with some fixed part of the frame of the velocipede so that it can have no rotary movement, but at the same time is free to move axially along the hub for a limited distance. As the result of the inward thrust of the brake ring by the cam action of the clutch ring, the brake-shoe is forced inwardly, and is thereby brought into braking contact with a

brake-cup carried by the hub itself, and which is clearly shown both in defendant's model No. 1 and in Exhibit No. E–10. As a consequence of the braking pressure which is thus applied, the momentum of the velocipede is checked, and the vehicle may be stopped. When it is then desired to again drive the velocipede forward, the rider pedals in the proper direction to rotate the sprocket
372 wheel forward, thus turning the clutch ring in the opposite direction to which it had been turned in applying the brake, thereby freeing its pressure upon the brake ring so that in turn the pressure of said brake ring upon the brake is released, thus removing the braking pressure, and permitting the wheel to run freely forward. In Exhibit E–10, therefore, it will be noted that the sprocket-wheel has itself no longitudinal movement. It acts upon the clutch ring, *A*, either to drive it forward or to drive it back, and when driving it forward it causes said clutch disk to move axially, and thus grip the hub. When, however, the clutch ring is moved backwardly by the backward rotation of the sprocket-wheel, the brake ring is moved inwardly, thereby forcing the normally stationary brake in the proper direction to brake and stop the wheel. This construction and mode of operation of Exhibit E–10 is characteristically different from that of the Farrow device, as illustrated in Figs. 1, 3 and 5 of the Farrow hub-brake application. In the said Farrow device the driving, coasting and braking effects are due to the axial movement of the sprocket-wheel, whereas in Exhibit E–10 the sprocket-wheel has no axial movement. In the said Farrow device the sprocket wheel has a screw clutch member which screws directly into a corresponding screw clutch member on the hub; whereas in Exhibit E–10 the sprocket-wheel has cam-inclines which force a clutch-ring inwardly into clutching relation to the hub, the clutching being frictional only. In the said Farrow device the brake is a spring brake or
373 brake-band, whereas in Exhibit E–10 the brake is a conical, annular brake-shoe of some slightly yielding material. In the said Farrow device the brake-spring or brake-band is carried directly by the sprocket-wheel, so that it rotates therewith during the ordinary propelling of the velocipede, whereas in Exhibit E–10 the brake never rotates, and it is not connected with the sprocket-wheel so as to partake of the movements thereof. In this connection it is to be noted that the brake-spring of said Farrow device moves in and out with the sprocket-wheel, as well as rotating therewith. In the said Farrow device the braking pressure is secured by causing one end of the brake-spring to become obstructed by a fixed portion of the vehicle frame; whereas in the said Exhibit E–10, the brake-shoe is always prevented from rotation by connection with a fixed portion of the velocipede, and its braking movement is simply an in-and-out movement with relation to the cup-shaped flange carried by the hub. In the said Farrow device the resumption of driving is due to the inward movement of the sprocket-wheel, which is due, in turn, to the strain of the sprocket-chain endeavoring to run straight or perpendicular to the axis of the rear wheel and likewise

of the pedal axle; whereas in Exhibit E–10, the position of the chain does not vary, and no variation in the position of the chain with relation to the plane which it occupies to said axes has anything to do with the resumption of driving. In structure, therefore, as well as in organization and mode of operation, Exhibit E–10 is not like the said Farrow device. On the contrary, the two devices
374 are substantially and materially different in construction, organization and mode of operation.

(At this point a recess was taken until 1:10 o'clock p. m., at the expiration of which, the same parties being present as aforesaid, the witness continued his testimony, as follows:)

The WITNESS: I have thus far considered only the construction shown in Figs. 1, 2 and 5 of the Farrow hub-brake application, and will accordingly now take up the different structure which is illustrated in Figs. 3 and 4 of the drawings of said application; and for the purpose of illustrating this construction I now produce a recently-made model prepared for the purpose of illustrating the same. This model is marked "Farrow No. 2 model." For the purpose of showing the clutch mechanism of this model, it is equipped with a transparent celluloid plate on the outside, which admits of the interior construction being seen. In this construction the sprocket-wheel turns upon the hub of the rear wheel of the vehicle, being free to turn backwardly; but when turned forwardly, the sprocket-wheel is clutched to the hub by means of clutching friction-rollers, which are indicated at *c*, *c*, in Fig. 3 of the application drawings, and which are located in the recesses in the hub. This form of friction-clutch permits the wheel to run freely while coasting when the sprocket-wheel is held stationary, and when the sprocket-wheel is rotated forwardly the friction clutch becomes operative, and thereupon the wheel is driven by the sprocket-wheel. This, therefore, provides for coasting when the rider holds his feet on the pedals.
375 The brake in this instance is governed entirely by the action of the sprocket-chain which drives the sprocket-wheel on the rear hub. In this construction, as in the Farrow construction already considered, the brake consists of a brake-spring or brake-band which is illustrated in Fig. 4 of the drawings, and which ordinarily turns with the sprocket-wheel and loosely upon the hub. In this case, however, the ends of the brake-spring or brake-band have outwardly-projecting wedge-shaped extensions, which are illustrated at d^3 in Fig. 4; and with these co-operates a lever, *F*, the ends of which are adapted to be operated upon by pins, *g*, which project through the rim of the sprocket-wheel as indicated in Fig. 3 of the application drawings. During the ordinary running of the bicycle or other vehicle equipped with this device, the said lever *F* is inoperative to perform any braking office, because recesses in the same, which are marked *f'* in Fig. 4, are then in line with the aforesaid pins, *g*, carried by the sprocket-wheel; so that when the links of the sprocket-chain come in contact with said pins, *g*, as the sprocket-wheel revolves, said pins, *g*, are pressed inwardly radially,

but do not have any effect upon the said lever *F*. In case, however, the movement of the pedals is stopped in such position that the lever *F* occupies a free position on the sprocket-wheel, where it is not in contact with the sprocket-chain either below or above, as is the case when it is opposite the open space in the chain where the chain leads from one sprocket-wheel to the other, said lever is free to move slightly longitudinally of its own length as the result of its momentum when the rotation of the sprocket-wheel is stopped,
376 thereby bringing either one end or the other in register with one of the aforesaid pins, *g*, on the sprocket-wheel. Then, when back-pedaling takes place, and the rear sprocket-wheel is moved far enough to bring said pins into contact with the sprocket-chain, said pins are forced radially inwardly, thereby forcing said lever inwardly, thus causing laterally-projecting pins, *f*, on said lever to be forced inwardly against the inclines on the projecting bosses d^3 of the brake-spring or brake-band, thereby compressing the ends of said brake-spring or brake-band toward each other, thus contracting said brake-band or brake-spring, and thereby applying frictional braking pressure to the hub of the rear wheel. When forward driving is again resumed, the lever *F* loses its hold upon the brake-spring or brake-band, and the same, being expansible, springs outwardly, thus again becoming loose upon the hub; and thereafter the said brake-spring or brake-band revolves freely with the sprocket-wheel, and does not apply any braking pressure. It is, I think, clearly evident from this description that the construction and operation of this mechanism are radically different from that of Exhibit E–10. In this Farrow construction the braking is due to an expansible brake-spring, whose ends are forced together, thereby contracting the spring by means of a lever carried by the sprocket-wheel, which is controlled by the direct action of the links of the sprocket-chain. It seems almost unnecessary to state that there is no mechanical resemblance at all between such a structure and that of Exhibit E–10, which, as I have already described, owes its braking pressure to a cone-shaped brake, which is
377 ordinarily stationary, which never revolves, and which is forced axially inward against a cup-shaped flange on the hub by the action of an axially-sliding brake-ring surrounding the hub, which is itself forced axially inward by cams on a clutch-ring which is rotated backwardly when the sprocket-wheel rotates backwardly. I think the mechanical difference between Exhibit E–10 on the one hand and either of the two Farrow constructions which I have thus far referred to on the other will be very apparent by considering what would be the result if the sprocket-wheel on the rear hub, instead of being driven by a sprocket-chain, should be itself a gear-wheel driven by gearing in the manner which is now becoming common in what are known as "chainless bicycles." Should the sprocket-wheel of Exhibit E–10 be provided with gear-teeth instead of with the projections to receive the chain, so that it could be driven by gearing, as in a chainless bicycle, the action of Exhibit E–10 in driving, coasting or in braking through back-pedaling would be

just the same as when a sprocket and sprocket-driving chain are employed.

Mr. GITTINGS: Does the exhibit show that it can be used on a chainless bicycle? Is it not made for a chain bicycle?

The WITNESS: I say no, by putting a gear-wheel on here instead of——

Mr. GITTINGS: Then I object to that portion of the witness's testimony which refers to a chainless bicycle, as Exhibit E–10 shows it is meant for a chain bicycle and has the sprocket on it for
378 a chain bicycle; and his testimony should be limited to that.

The AUDITOR: I think that witnesses giving expert testimony are allowed to go outside of the severe technical limits of a machine, and show the possibilities of changes in its construction and uses. I will let this stand, at any rate.

Mr. GITTINGS: Does your honor mean to pass upon the objection now?

The AUDITOR: No; I will let the objection stand.

The WITNESS: In case, however, a similar change should be made on either Farrow construction—that is to say, if in either construction the sprocket-wheel on the rear hub should be provided with gear-teeth to mesh with driving-gear instead of with sprocket-teeth to connect with a sprocket-chain—neither of the said Farrow devices would be operative for the purposes of driving, coasting, and applying a brake by back-pedaling. This is the case because in both Farrow constructions the chain itself has a necessary operative action in governing the braking action and the clutching action which is necessary to drive the vehicle. In the construction shown in Figs. 1, 2 and 5 of the Farrow application, a longitudinal sliding of the sprocket-wheel is necessary; and it is brought back into clutching position solely as the result of the chain seeking to run in a plane perpendicular to the axis of the rear hub. The presence of the driving sprocket-chain is, therefore, necessary. So, likewise, in the other construction shown in Figs. 3 and 4 of the Farrow application drawings, the operation of the chain upon the pins, *g*, is necessary in order to apply the brake. The
379 fact, therefore, that a peculiar operation of the chain is necessary to the operation of either Farrow device, while in Exhibit E–10 it is immaterial from what source the sprocket-wheel may be driven, whether by a sprocket-chain or otherwise, shows the lack of mechanical resemblance between the Farrow devices on the one hand and Exhibit E–10 on the other. Another important difference between Exhibit E–10 and either of the two Farrow devices is that in Exhibit E–10 the brake can always be applied, whatever may be the position of the pedals, and by a very small back movement. If the vehicle is being driven forward in the usual manner, a back-pedaling movement which moves the rear sprocket-wheel through a very small arc, certainly within a twelfth of a revolution of the sprocket-wheel, is sufficient to apply the brake. Consequently, the brake is always under the practically immediate and instan-

taneous control of the rider. This is not true of either Farrow construction. In the Farrow construction illustrated in Figs. 1, 2 and 5 of the Farrow application drawings, or in Farrow No. 1 model, there is only one position in the revolution of the rear sprocket-wheel where the brake can be applied; and that is the position where the projection d' comes in contact with the latch, e, on the reverse movement of the sprocket-wheel. It may consequently happen that it will be necessary to rotate the sprocket-wheel backwardly through almost a complete revolution thereof before the commencement of the braking operation can take place. As a consequence, the brake cannot be applied at once and instantaneously.

Again, it is to be noted in this same connection that ordinarily bicycles are geared so that one revolution of the pedal-shaft makes more than one revolution of the hub of the rear wheel; and as the result, it may happen that when the brake should be applied the pedals may be in a very inconvenient position for applying the necessary braking force through them. These same considerations exist also in the case of the construction shown in Figs. 3 and 4 of the Farrow application drawings, and shown in the Farrow No. 2 model. In this construction the pedals must be stopped in such a position that the rear sprocket-wheel occupies the proper position to have the lever F opposite the vacant space between the upper and lower reaches of the sprocket-chain. It consequently is necessary for the rider, in using such a construction, to be careful to stop his feet in just the required position, and to then back-pedal. In case the sprocket-wheel on the pedal-shaft is larger than the sprocket-wheel on the rear wheel, as is usually the case, it will be necessary for the rider to experiment each time when he wishes to apply the brake in order to know when the back-pedaling is to be effective. In these respects Exhibit E–10 is materially different, since the organization and mode of operation are such that the mechanism is ready to act whenever the occasion arises. As I have already said, in each of the two constructions shown in the drawings of the Farrow hub-brake application the brake-spring or brake-band is one which is carried by the sprocket-wheel and which encircles the hub, the brake-band or spring being expansible so as by its own elasticity to be kept out of braking contact with the hub. The contraction

380

of this brake-band or brake-spring upon the hub effects the

381

braking. This is not the case with the brake of Exhibit E–10.

The braking member in said Exhibit E–10 is not an expansible brake-spring or brake-band, and it is not carried by the sprocket-wheel, and does not partake of the rotary movement thereof. It has simply an axial movement to and from the cup-shaped flange on the wheel-hub; and the sprocket-wheel does not partake of the said axial movement of the brake. The brake is simply an annular cone composed of some slightly elastic material which can be forced into braking contact with the cup-shaped flange on the hub. For all the foregoing reasons, I do not find Exhibit E–10 described in detail in Exhibits Nos. 3 and 4, W. M. F.

(At the request of counsel for the complainant, the stenographer read aloud the following portion of the testimony of the witness, to be found on the second and third pages of the present session of testimony:)

"I do not find that Exhibit E–10 is described in detail in the Farrow hub-brake application; nor does said Exhibit E–10 have any substantial feature of invention which is embodied or embraced or set forth in said application."

Mr. EARLE: I want to raise the same objection to that portion of the answer that I raised before. I merely want to note the objection on the record, and we will take it up later on. I object to that part of the answer as being irresponsive to the question.

Mr. GITTINGS: I want to renew a motion to strike out all that portion of the witness's testimony which relates to the operation of this brake if the same had gearing-teeth instead of sprocket teeth and were fixed for a chainless bicycle.

382 The AUDITOR: I will allow that testimony to stand subject to your objection. Its materiality may appear later on.

Mr. EARLE: I think the chief point of the objection is that it is apt to mislead other courts to whom this question will come. They may look around for some model here without these teeth, and it may complicate the situation; and it is a good deal complicated as it is to anyone other than an expert mechanician.

(The objection was, for the present, overruled.)

By Mr. OSGOOD:

Q. Please state whether at the time of the date of the applications of Farrow to which you have been referring there was in use or known to the bicycle manufacturer such a thing as a chainless bicycle? A. I am unable to say, from recollection, whether any such bicycles were in use at that time or not; but such had certainly been described in patents and other publications prior to that date.

Q. What other types of bicycles were in use at that time? A. At and prior to that time there certainly were in use the ordinary bicycles known as "safeties," having a spocket-chain connecting a pedal-axle with a sprocket-wheel on the rear wheel of the bicycle; also, it was old to have bicycles in which the pedals were directly on the hub to be driven, such as the old style "high" bicycles. Such wheels could properly be called chainless bicycles. There were also bicycles such as the "Star" bicycle, where the opera-

383 tion was through levers and clutch mechanism.

Q. What subsidiary mechanisms in bicycles of those types were known at that time?—I mean prior to the dates of Farrow's applications. A. Such bicycles were provided with subsidiary devices of various kinds. Among such devices may be mentioned devices which would enable the machine to coast when the rider kept his feet on the pedals, and also to apply a brake by back-pedaling.

Q. Can you mention any particular instances that illustrate your last statement?

Mr. GITTINGS: Now, your honor, we object. He is going into the prior state of the art.

Mr. WORTHINGTON: By consent of counsel.

The AUDITOR: They have already asked a couple of questions in this line.

Mr. GITTINGS: I know they have. I wanted to see how far they would go.

(After discussion by counsel on both sides:)

The AUDITOR: The objections that have been urged would apply with whatever force they have to the two preceding questions, and especially to the last one of those two. The first question was susceptible to that objection, if it applies at all. The answer to that question is general, and speaks of various devices in use in a general way; and he is now asked, in the same line, to state if he knows of any particular instances of the use to which he has already testified in his answer. Now, if the preceding question and the answer
384 were not objected to, clearly this cannot be; and the embarrassment of the situation is, how can I prevent them from finishing that particular inquiry, having gone so far with it? I shall have to overrule the objection for the present.

Mr. GITTINGS: We will have to note an exception.

(The pending question was read to the witness.)

A. I will refer to the British patent of Edge, No. 295, dated January 2nd, 1884; to the United States patent of Courtland, No. 520,728, dated May 29th, 1894, and to the United States patent of Hiller, No. 422,781, dated March 4th, 1890. I could name others; but these seem to me to cover the ground which I had in mind in making my next preceding answer.

By Mr. OSGOOD:

Q. I offer you three papers, and ask you whether you have read and understand them, respectively. You can state what they are. A. The papers here handed me are certified copies of the two U. S. patents referred to by me in the preceding answer—that is to say, certified copies of the Hiller patent, No. 422,781, dated March 4th, 1890, and the patent of Courtland, No. 520,728, dated May 29th, 1894—and also a certified copy from the bound volumes of the library of the United States Patent Office of the provisional and complete specifications and the drawings of the Edge British patent, No. 295, dated January 2nd, 1884, also referred to in my next preceding answer.

Q. The question was, I think, whether you had read and understood the same? A. I have read and understand the same.

385 (The further taking of testimony in this cause was thereupon, at 3 o'clock p. m., adjourned until Saturday, November 23rd, 1901, at 10:30 o'clock a. m.)

386 WASHINGTON, D. C., SATURDAY, *Nov.* 23, 1901,
10:30 o'clock a. m.

The hearing of the case of Farrow *vs.* The Eclipse Bicycle Co. was resumed, before the auditor, pursuant to adjournment.

Present on behalf of the complainant, Henry M. Earle, Esq., and John C. Gittings, Esq.

Present on behalf of the defendant, A. S. Worthington, Esq., Howard L. Osgood, Esq., and Douglass S. Mackall, Esq.

Mr. WORTHINGTON: We now offer in evidence the certified copies of the following United States patents referred to yesterday:

The Hiller patent, No. 422,781, dated March 4th, 1890.

The patent of Courtland, No. 520,728, dated May 29th, 1894.

Also a certified copy, from the bound volumes of the library of the United States Patent Office, of the provisional and complete specifications and the drawings of the Edge British patent, No. 295, dated January 2nd, 1884.

We offer these patents, and each of them, upon the following several grounds:

First. Because without objection we have already been allowed to show what was the prior state of the art in general, and should not now be excluded from showing it in detail.

Second. We offer them also for the purpose of showing that they and each of them, in whole or in part, anticipate the inven-
387 tions embodied and described in the applications of Farrow in evidence, and each of them.

And finally, we offer them for the purpose of showing the state of the art at the time the applications in question were filed, and at the time the contract upon which this suit is founded was entered into, to enable the auditor and the court to intelligently and properly construe the applications in question.

Mr. GITTINGS: We object to that offer, on the grounds that they are immaterial, irrelevant and incompetent. The prior state of the art has nothing whatever to do with the case.

The AUDITOR (after extended argument): The condition of this case at the adjournment yesterday was an offer of three letters patent in evidence, these three patents being generally described in the answer of Mr. Browne to the last question but one found in the record of yesterday's proceedings. Objection being made, the offer was temporarily withdrawn; and today it is renewed, for the purposes stated by Mr. Worthington.

The argument to-day has proceeded very largely upon the use of the word "inventions" in the original contract, and with a view of bringing into this controversy now the issue of what construction should be given at this time to the use of that word. In other words, it involves the issue whether the claims made in the applications of Farrow and the inventions referred to in those applications and described therein were patentable, presenting today the question of whether United States letters patent should have been issued on those applications for the improvements therein claimed.

388 It is true that there is some testimony here, taken without objection, tending to show that some of these improvements were in use prior to the filing by Mr. Farrow of his application for letters patent; and that testimony, of course, will stand in the record. It is followed now by the offer in evidence of the three letters patent described by Mr. Browne, two being letters patent of the United States, and the other a copy of a patent issued by the British patent office.

The authorities which have been cited by counsel for the defendant in this discussion are all cases of original suits alleging infringement, praying an injunction to prevent that infringement, and for such other relief as usually follows in similar cases brought in courts of equity. In no one of them do I find it held that the master can enlarge his jurisdiction so far as to determine, for the purpose of the accounting, what this offer calls on him to do, to wit, whether the letters patent issued by the United States Patent Office to Farrow should have been issued—in other words, whether the so-called improvements and inventions were patentable.

I am clearly of the opinion that this question, the patentability of those inventions or improvements, as described and claimed in the original application, has been determined by the United States Patent Office by the allowance of some of the claims in the application of Mr. Farrow, No. 600,359. So far as the inventions referred to in this contract have been so adjudicated by the highest authority short of appeal to the courts—an appeal which never
389 has been taken—I must hold it conclusive here. I am of the opinion that I cannot now inquire whether these inventions or devices were patentable, or whether the so-called improvements were really *inventions* in the meaning of the law of patents, whatever may be the common interpretation given to that term.

I might say right here, of course, that by the agreement the undertaking of the defendant was limited to such of the claims described in the application as should be allowed by the Patent Office. That is found in the seventh paragraph of the contract:

"It is further agreed by and between the parties hereto that in case said Willard M. Farrow for any reason fails to procure letters patent of the United States for the improvements above referred to, the parties of the second part shall be relieved from the payment of all royalties from and after the date of final adverse action of the Patent Office on the application or applications for patent for said improvements."

The Court of Appeals has already decided that the failure of the issue or delivery of the formal letters patent on allowed claims was not the fault of Mr. Farrow, but was rather the fault of the defendant; and for the purposes of this case he is to be treated as if those letters patent were issued.

The question presented here today is not new in this case. On page 473 of the opinion of the Court of Appeals, the last paragraph on that page, in reply to the claim of the appellant that the appellee was not the first inventor of the inventions or devices which form

the subject-matter of the contract between him and the company, the court, referring to the Stover & Hance patent, say:

390 "The sale by the appellee to the appellant company was of all his right, title and interest; and the claims of both of his applications were undoubtedly for patentable inventions. They were so held by the Patent Office; and one of them was allowed without contest, although probably after the modifications not unusual in such matters, to go to an issue."

Then the court go on to say that if the patent was not issued on the application so allowed, it was distinctly on account of the failure or refusal of the company defendant here to pay the fee, and that practically the applicant, Farrow, was not to be bound by that or to suffer by reason of it.

The evidence in the record so far, that some of the devices or improvements described or mentioned in these applications were in use prior to the time of Farrow's application, is there for the benefit of counsel for whatever it may be worth. In the practice of this office all documents offered in evidence are filed; and these three certified copies of letters patent will be filed, so that if I am in error in excluding them or sustaining the objection at this point the court will have an opportunity to see fully what I have done, and to apply the remedy. But I think the time has come for me to hold what I probably should have held at the first objection to this class of testimony—that I am precluded from taking up, in any form, the issue of whether or not the applicant was entitled to patent upon his claim. The cases do not come to the master until after the court has decided that question; and the extent to which the master can go in all such cases, in my judgment, is that which I have adopted in the present case—to ascertain whether the manufacture

391 and sale by the defendant company of substantially a similar device to that described in the application so far as the claims of the application were allowed by the Patent Office, is established in proof. The testimony that I have already taken since I expressed my opinion on that point has been, so far as I could control it, solely directed to that issue. It is always a relief to know that if I am wrong, I may be corrected, and the court will have just as much material for that purpose as I have now for the determination of the question here.

The three letters patent will be filed, and properly marked as exhibits; and the objection will be sustained for the purposes of this reference.

Mr. WORTHINGTON: Will the auditor say what the conclusion is in reference to the tender of this evidence to enable the auditor and the court to properly construe the patent? That is the main ground which I have argued today.

The AUDITOR: I have said we could not go into that issue, holding that it had been already determined, first by the Patent Office in the allowance of the application No. 600,359, and second by the court in its decree and opinion.

Mr. WORTHINGTON: Very well. We will except to the rejection of these patents, and severally to the exclusion of each of them.

We now offer, for the same purposes and for the same reasons, the following patents:

Certified copies from the bound volumes of the library of the Patent Office of the provisional and complete specification and drawing in the matter of the English letters patent to Louis O. Michael,
392 application dated September 3, 1894, No. 16752.

Also a certified copy from the bound volumes of the library of the Patent Office of the complete specification and drawing in the matter of the English letters patent to Alfred Julius Boult, No. 597, dated January 12th, 1891.

Also a certified copy of United States letters patent No. 527,751, to George E. Whitney, dated October 16th, 1894.

Also certified copies from the bound volumes of the library of the Patent Office of the provisional and complete specifications and drawings of the English letters patent to John Watkins, No. 4169, dated February 29th, 1884.

Mr. GITTINGS: We make the same objection.

The AUDITOR: The objection is sustained, for the same reasons as before.

Mr. WORTHINGTON: We except generally as to all, and severally as to each of them.

ARTHUR S. BROWNE, the witness under examination when the adjournment was taken, then continued his testimony, as follows:

By Mr. OSGOOD:

Q. Please take the Exhibits 3 and 4, W. M. F., and take the claims that were allowed upon that application, and compare the said claims with Exhibit E–10, pointing out the resemblances and differences, and giving your reasons.

(Objected to by counsel for the complainant, on the ground, among others, that the question involves an inquiry into the prior state of the art, which inquiry has been excluded by the auditor.)

393 The AUDITOR (after argument): I shall certainly have to hold one of two things: Either the adjudication of the Patent Office upon the application No. 600,359 is to be taken as a whole and the seventh clause of the contract applied to it, or the question is open here for the purpose of showing the right of Mr. Farrow to patents for all the claims mentioned in that application. To adopt any other course would be entirely inconsistent with every rule of equitable proceeding, it seems to me. The objection to the question will have to be overruled, and an exception allowed.

Mr. GITTINGS: We will note an exception.

(The pending question was read by the stenographer.)

A. Four claims were allowed by the Patent Office on this application, which I will still refer to as "the Farrow hub-brake applica-

tion," these claims having been inserted by amendment dated July 9th, 1897. Exhibit E–10 does not embody or contain the subject-matter which is recited in any one of these four claims. The first of these claims (originally numbered 6, and afterwards numbered 1) specifies a coasting and brake mechanism for bicycles having a combination of certain recited devices, consisting of the extension hub, "the expansible brake-spring mounted thereupon, the sprocket rim mounted upon the brake-spring, and means for automatically clutching the parts for propulsion and releasing them for coasting, all as and for the purposes described." It will be noted that this language recites a brake-spring which is expansible, and which is mounted upon the hub, and that the sprocket is in turn mounted upon the brake-spring.

394 This claim thus recites the specific construction to which I have referred as being a characteristic construction of the Farrow device. In order that this subject-matter should be present in a device, it is necessary that there should be a brake-spring which is expansible and which is mounted on the hub, and that the sprocket wheel should be mounted upon the brake-spring. No such construction is contained in Exhibit E–10. As pointed out in a preceding answer, there is no brake-spring at all, and consequently cannot be a brake-spring mounted on the hub, and consequently it cannot have a sprocket-wheel mounted on the brake-spring. In Exhibit E–10 the brake is not a brake-spring, and the sprocket or sprocket-rim is not mounted upon the brake. On the contrary, as previously pointed out, the brake is an annular cone-shaped brake which is mounted entirely independently of the sprocket, never partaking of the rotary movement of the sprocket. Nor, in any sense, is this construction of Exhibit E–10 the mechanical equivalent of what is recited in this claim. A mechanical equivalent is a device which operates in substantially the same way to produce substantially the same result as another device. In this case the particular brake employed in Exhibit E–10 is not the mechanical equivalent of the brake-spring recited in this claim, because it does not operate in the same way. The brake-spring recited in the claim is one which must be mounted to turn with the sprocket in order to produce the result of the device as described in the specification and illustrated in the drawings. Any other brake, to be a mechanical equivalent therefor, must operate in this same way. This is

395 not true of the brake of Exhibit E–10, since it does not operate in the same way, it never turning with the sprocket-wheel, and it not being contracted around the hub as the result of any connection with the sprocket-wheel which causes it to contract, due to being attached to the sprocket at one end and being held by engagement with a fixed part of the mechanism at its other end, as is the case with the expansible and contractible brake-spring recited in this claim. The same considerations apply to the subject-matter of the second allowed claim (originally numbered 7 in the amendment of July 9th, 1897). This claim recites the construction of the brake-spring in an even more limited manner than does the

first claim, because it specifies a "brake-spring having overlapping ends." What is meant by this is clearly shown in Figs. 2 and 5 of the drawings of the Farrow hub-brake application, which show the two ends of the brake-spring overlapping each other; and this particular construction was specified in the application as originally filed in the Patent Office in the following language: "It (that is, the brake-spring) is made to encircle the hub *a* about one and a fourth or more times, overlapping with a wedge or taper of its inner end, though having an outward spring or tension upon the inner bore of the rim, so that it loosely though closely fits the hub *a*, and rotates easily thereupon." This claim, therefore, requires a brake-spring so constructed as to have its ends overlapping each other. As Exhibit E–10 has no brake-spring, it of course follows, as a matter
of course, that it can have no brake-spring so constructed
396 that its two ends overlap each other. Consequently, Exhibit E–10 does not contain that construction which is specified in this second claim. The third allowed claim (which was claim 8 originally in the amendment of July 9th, 1897) is even more specific as to the exact construction than the preceding claims. This claim not only recites "the expansible brake-spring having overlapping ends" (so that what I have just said applies with equal force to this claim), but it also recites "a stationary detent for engaging the brake-spring when the sprocket rim is rotated backwardly." This has reference to the latch *e* (see Fig. 1 of the patent application drawings) to which I have heretofore referred as the part which is encountered by the projection of the brake-spring when the sprocket-wheel is rotated backwardly, this part *e* being referred to as a "detent" in the amended specification. As described in a previous answer of mine, the organization of the first described form of the Farrow hub-brake requires that some relatively stationary part should be encountered by a projection on the brake-spring in order that the brake-spring may be contracted around the hub by the further backward rotation of the sprocket-wheel. This stationary device is that which is referred to in this claim by the language "a stationary detent for engaging the brake-spring when the sprocket-rim is rotated backwardly." Such a device is essential in the construction of this form of the Farrow brake, since the expansible brake-spring having overlapping ends must necessarily be attached at one end to a rotating part such as the sprocket-wheel, and if so its other end must come in contact with a fixed part in
order that the brake-spring may be contracted and thereby
397 apply braking friction. The word "detent" is an apt term, because it is a device which detains and therefore stops the movement of the part to be controlled—that is, the projecting end of the brake-spring. No such "stationary detent" for engaging the brake-spring "when the sprocket-rim is rotated backwardly" is present in Exhibit E–10, because said Exhibit E–10 has no brake-spring to be contracted by the action of such a stationary detent. Nor has Exhibit E–10 any mechanical equivalent for such a stationary detent, because the mechanism of Exhibit E–10 operates,

not in the same way, but in an entirely different way, the defendant's brake-shoe being forced into contact with the cup-shaped flange on the hub by means of the action of cams, one on the cam brake-disk, and the other on the clutch-disk, as heretofore described by me. The fourth allowed claim (numbered 9 in the amendment of July 9th, 1897) is even more limited than the third claim. It recites, in combination with the clutch device, "a brake comprising a spring located within the coasting devices and having its ends overlapped and provided with projections, and a catch or detent for engaging one end of the spring while the other end thereof is engaged by the driving sprocket." This claim, like the preceding claims, thus recites the brake-spring with its ends overlapped, and also recites the catch or detent for engaging one end of the spring when the sprocket-wheel is rotated backwardly. Consequently, what I have said in reference to the lack of resemblance between Exhibit E–10 and the subject-matter of the preceding allowed claims applies with equal force to the subject-matter of this claim. In addition,

398 this claim requires that the brake-spring should be "located within the coasting devices;" and it is seen by reference to the drawing that this means that the brake-spring should be located within the hollow bore of the sprocket-wheel, so as to be between the bore of the sprocket wheel and the portion of the hub on which the sprocket-wheel turns. Of course the brake of Exhibit E–10 has no such location. This claim also specifically states that one end of the brake-spring is engaged by the sprocket, which is clearly shown in Fig. 2 of the drawings of the Farrow hub-brake application, but there is no such engagement between the brake and the sprocket in Exhibit E–10. Nor does Exhibit E–10 have the mechanical equivalent of the subject-matter of this claim, both for the reasons heretofore stated, and for the further reasons that owing to the location of the brake-shoe of Exhibit E–10 wholly outside of the sprocket-wheel instead of being located inside of the same, as in this Farrow device, there is necessarily involved an entirely different mode of operation in the way the braking force is applied, and consequently the brake-shoe of Exhibit E–10 does not operate in substantially the same way as the expansible brake-spring of this Farrow device, and consequently it is not a mechanical equivalent thereof. For these several reasons, Exhibit E–10 does not contain or embody the subject-matter of any one of the four allowed claims of the Farrow hub-brake application, nor does it contain any mechanical equivalents thereof.

Q. Please take the Exhibits 3 and 4, W. M. F., point out the claims other than those referred to in your last answer that

399 were not rejected by the Patent Office, and compare them with Exhibit E–10, stating the differences and likenesses and your reasons therefor.

Mr. GITTINGS: We interpose the same objection—that it is limiting the question to the mere claims, and not to the invention as set forth in the applications. I understand the objection is overruled.

The AUDITOR: Yes.
Mr. GITTINGS: And an exception is noted.

A. In addition to the claims allowed in the Farrow hub-brake application, I find certain other claims which were not rejected upon references, but which were objected to on other grounds—as, for example, upon the ground that they covered independent inventions, which could be covered, if at all, only in other applications. The amendment of July 9th, 1897, contains two such claims, therein numbered 4 and 10, respectively. The subject-matter of claim 4 is obviously not embodied or contained in Exhibit E–10, nor does said exhibit contain any mechanical equivalent therefor. This claim, for example, recites a combination including "the spring-pressed clutch and lever with its releasing mechanism," "the latch for retaining the clutch from engagement, and the knock-off for depressing the latch." It is impossible to find any such devices as these in Exhibit E–10. It has no spring-pressed clutch, no lever co-operating therewith, no releasing mechanism for such a lever, no latch for retaining the clutch from engagement, and no knock-off for depressing the latch, each of which devices is expressed and recited in this claim. Such devices are entirely foreign to anything contained in Exhibit E–10;
400 and Exhibit E–10 has no devices to which said language can be made to apply. Claim 10 of this amendment requires a combination which shall include a sprocket "provided with radially-disposed openings," "a clutch device comprising a sliding disk having pins to enter said openings, and means for sliding said disk on the axle." I understand this mechanism to refer to a device the function of which is thus referred to in the original specification as filed: "This device is, however, readily converted at will to an ordinary solid sprocket by means of a clutch, *I*, mounted loosely upon the shaft, and having a series of pins, *i*, *i*, which pass through holes in the rim and into co-incident holes in the hub, *A*." There is no such device or devices in Exhibit E–10, and no devices having any such purpose or any such object. Said exhibit does not have means for converting the sprocket-wheel into a solid sprocket—that is, solid with the hub. Specifically, it does not have a sprocket with radially-disposed openings, or a sliding disk having pins to enter said openings, nor means for sliding such a disk on the axle, all of which features are recited in claim 10. In addition to these claims, the specification, as originally filed in the Patent Office, contained five claims, numbered 4, 9, 10, 12 and 13, respectively, which were not rejected upon prior patents. Of these claims claim 4 is identical with claim 4 contained in the amendment dated July 9th, 1897, which I have just considered in this answer, and accordingly need
401 not be again referred to. Claim 9 of the original application recites the hub of the bicycle, "the brake-spring loosely and concentrically mounted thereupon, the sprocket rim mounted eccentrically upon the brake-spring, and a fixed detent for preventing backward rotation of the brake-spring." It will be noted that this

claim in its recitations is quite similar to allowed claim 3, containing, however, in addition the recitations that the brake-spring is "loosely and concentrically" mounted on the hub, and that the sprocket is mounted "eccentrically upon the brake-spring." The gist of this claim, therefore, as compared with allowed claim 3 is this particular relation of the brake-spring to the hub and to the sprocket, the brake-spring being necessarily one which is concentric with the hub and upon which the sprocket is eccentrically mounted, in order to come within the recitations of this claim. Of course Exhibit E–10 has no such construction, because it has no brake-spring, and consequently nothing of the sort which can be concentric with the hub and upon which the sprocket is eccentrically mounted. Exhibit E–10 does not have anything upon which the sprocket is eccentrically mounted, the sprocket being concentrically mounted directly upon the hub. Nor is the brake-shoe of Exhibit E–10 eccentric to the sprocket; nor is it in any sense mounted on the sprocket, as is required by this claim. Exhibit E–10 does not contain a mechanical equivalent of what is recited in this claim, since defendant's brake-shoe operates in a substantially different way from the brake-spring recited in this claim. This brake-spring requires some peculiar action,
402 due to its being mounted loosely and concentrically upon the hub, and due to the sprocket being mounted eccentrically upon it; and the brake-shoe of Exhibit E–10, not being a brake-spring, cannot have a mode of operation which is due to such concentric and eccentric relations of the brake-spring recited in the claim. Claim 10 of the original application recites a combination including "the brake-spring provided with the lip to engage a recess in the sprocket rim, and the thickened and thinned sections of the spring forming an excentric seat or bearing for the sprocket rim mounted thereon, whereby, when traction is made upon the rim, it is caused to grip the brake-spring for the propulsion of the driving wheel, all as set forth and described." This claim, it will be noted, is similar to allowed claim 3 and allowed claim 4, since it includes the brake-spring attached to the sprocket by means of a lip engaging a recess in the sprocket; and this claim also specifies the eccentric relation between the brake-spring and the sprocket recited in original claim 9 (just considered), and it also recites the fact that the brake-spring has "thickened and thinned sections." As far as this claim specifies features which are in allowed claims 3 and 4 and in original claim 9 (already considered), what I have said heretofore in reference to said claims applies with equal force to this claim. It is only necessary, therefore, to consider the additional recitation in this claim that the brake-spring has "thickened and thinned sections." It will be noted that it is the presence of this construction with thickened and thinned sections
403 that causes the eccentric relation between the brake-spring and the sprocket. It thus will be seen that this claim is directed to an exceedingly limited subject-matter, which requires the presence of such thickened and thinned sections in the

brake-spring for the purpose of forming an eccentric seat or bearing for the sprocket, and that necessarily and obviously Exhibit E–10 cannot have any such construction, or any mechanical equivalent for such construction, because, not having a brake-spring on which the sprocket is mounted, there can be no peculiar construction of said brake-spring to afford an eccentric bearing or seat for the sprocket-wheel. Original claim 12 also specifies "the brake-spring thickened at its central section and thinned toward its overlapping ends, and provided with the lip and side-extensions for engaging both the sprocket rim and a fixed part of the bicycle whereby traction can be applied to the ends of the spring for drawing it into frictional engagement with the hub-extension as set forth." This claim, it will be noted, thus specifies those features which characterize the brake-spring of the Farrow hub-brake application which I have heretofore considered in connection with preceding claims, none of which features, or the mechanical equivalents thereof, are contained or embodied in Exhibit E–10; and it seems to me unnecessary to again point out the fact that said Exhibit E–10 does not have thickened and thinned portions of the brake-spring, or overlapping ends to said brake-spring, or extensions or projections from said brake-spring which respectively connect it with the sprocket and with the fixed part of the bicycle which produces its contraction to apply braking pressure when the sprocket is rotated backwardly.

404 Claim 13 of the original application recites the hub extension and the sprocket rim, and also "the brake-spring interposed between them, and provided with an extension taking into a recess in the rim, and a side extension, as *d'*, in combination with the cone bearing fixed into and prevented from rotation by the fork of the frame, said cone-bearing carrying the disk *E* and detent *e*, and the saucer-shaped dust-guard *s*, all as and for the purposes described." This claim thus recites the location of the brake-spring between the hub and the sprocket, the circumstance that the brake-spring has two extensions or projections, one of which connects it with the sprocket-wheel and the other with the frame of the bicycle when the sprocket-wheel is rotated backwardly; and this claim also recites the detent or spring-latch *e* on the frame of the bicycle, together with other details, such as a cone-bearing and a saucer-shaped dust-guard. I have already pointed out that Exhibit E–10 does not have these features of a brake-spring and its relation to the hub, sprocket-wheel and fixed frame of the machine, or the mechanical equivalents thereof; and it does not seem necessary to again go over this ground, as what I have heretofore said on these points applies with equal force to the subject-matter of this claim. For the foregoing reasons, I am of the opinion that Exhibit E–10 does not contain the subject-matter of any of the claims presented either in the original application of the Farrow hub-brake application or during the prosecution thereof which claims were not allowed, but at the same time were not rejected upon reference to patents in the prior art.

Mr. WORTHINGTON: We now again offer the Hiller patent
405 (No. 422,781, dated March 4th, 1890), the Courtland patent (No. 520,728, dated May 29th, 1894), the Edge British patent (No. 295, dated January 2nd, 1884), the Michael British patent (No. 16,732, application dated September 3, 1894), the Boult British patent (No. 597, dated January 12th, 1891), the Whitney patent (No. 527,751, dated October 16th, 1894), and the Watkins British patent (No. 4,169, dated February 29th, 1884). We offer these patents, which were heretofore offered and excluded today, upon this additional ground—that it is claimed that Mr. Skidmore was not diligent or faithful in pressing the Farrow applications to a patent; and we offer these patents for the purpose of showing that Farrow was allowed, in his hub-brake patent, all and more than he was entitled to, in view of the prior patents and the state of the art.

Mr. EARLE: I object to that offer, because the claim has not been made before you as to Mr. Skidmore's alleged failure, and I do not think that the patents ought to be at this time taken up for this purpose. There is certainly no foundation for them other than the allegation of Mr. Worthington himself. That matter may come up, and may come before you, and it may be necessary to give consideration to it; but up to this time it has not arisen.

Mr. WORTHINGTON: I am not making any allegation, I am offering these patents for a certain purpose.

Mr. EARLE: They have already been filed for one purpose.

The AUDITOR: For the present I will sustain the objection.
406 I will say, however, that if the question as to whether Mr. Skidmore has injured the defendant or plaintiff here by his negligence becomes material in any way, this evidence might be competent and material.

(Thereupon, at 3.15 o'clock p. m., the further taking of testimony in this cause was conditionally adjourned until Monday, November 25th, 1901, at 10 o'clock a. m.)

407 MONDAY, *November* 25, 1901—11 o'clock a. m.

The hearing of the case of Farrow *vs.* The Eclipse Bicycle Company was resumed before the auditor pursuant to adjournment.

Present on behalf of the complainant, Mr. Henry M. Earle and Mr. John C. Gittings.

Present on behalf of the defendant, Mr. Howard L. Osgood and Mr. D. S. Mackall.

Mr. OSGOOD: I offer in evidence again, and offer to prove by the same prior patents that were listed in Saturday's evidence, that Exhibit E–10 is necessarily free from any domination by reason of claims which might be based on the Farrow application.

Mr. EARLE: I object, because the question is not whether Exhibit E–10 dominates the Farrow application.

The AUDITOR (after argument): The objection is sustained.

Mr. OSGOOD: We note an exception.

ARTHUR S. BROWNE resumed the witness-stand and his direct examination was continued, as follows:

By Mr. OSGOOD:

Q. You have answered a question as to whether Exhibit E–10 was described in detail in the Farrow application. Please state whether or not Exhibit E–10 is in any manner described in
408 the Farrow application, giving your reasons. A. It is not. While I answered the question concerning whether or not Exhibit E–10 is described in detail in the Farrow application, 600,359, I also answered the question in such a manner as to show that, in my opinion, Exhibit E–10 was not only not described in detail, but was also not described in substance or in any way. Consequently, by reference to my answer to the former question, I think it will be found that I have there substantially covered the present question. As set forth in that answer, I consider that Exhibit E–10 is substantially different in construction and mode of operation from anything which is set forth, described or contained in said Farrow application.

Q. What, if anything, do you find in Exhibit E–10 that is mechanically equivalent to the devices or combinations of devices set forth in the Farrow hub brake application? A. There is nothing in Exhibit E–10 which is the mechanical equivalent of the devices for coasting and applying a friction brake by back-pedaling, set forth, described, mentioned or claimed in the said Farrow application No. 600,359. In my answers, in which I considered the various claims of the said Farrow application, I referred in detail to the various devices of Exhibit E–10, and I have stated my reasons why I did not consider them the mechanical equivalents of the features of the said Farrow application. I might add that it is not enough to constitute one device the mechanical equivalent of another, that they should both perform the same result. To be mechanical equivalents the two devices must not only perform the same results, but must perform them in substantially the same way. For example, if a cannon-ball is to be trans-
409 ported a distance, say, of five miles, it can either be carried in a wheelbarrow or a railroad train, or be fired from a cannon; whichever of the three ways is employed, the cannon ball will be conveyed the desired distance, and to that extent the same result is secured by the three different means. But these three different devices are not therefore the mechanical equivalents of each other, because obviously they operate in substantially different ways. So, in the present case, the fact that the result of both mechanisms is that the rider of the wheel may coast while maintaining his feet on the pedals, and if he back-pedals a friction brake will be brought into action to stop the wheel, does not imply that these results are secured in substantially the same way, which latter qualification is necessary in order to make the two devices accomplishing the same purposes the mechanical equivalents of each other. I have in the preceding answers sufficiently explained why, in my judgment, the

devices of Exhibit E–10 do not operate in the same way as the devices of the said Farrow application No. 600,359, but, on the contrary, operate in a substantially different way; and it is for these reasons that I am of the opinion that the devices of Exhibit E–10 are not the mechanical equivalents of the devices of the said Farrow application No. 600,359.

Q. State what, if any, differences between E–10 and the devices of the Farrow application you find in respect of the action of the foot in producing braking by back-pedaling? A. I have already called attention to the circumstance that in the devices of the Farrow application the brake can only be applied when the
410 sprocket wheel occupies a particular position, thus requiring in many instances an undue movement of the foot in order to apply the brake, involving perhaps an inconvenient position for the application of the brake; whereas in Exhibit E 10 the brake is always ready to be applied with a very small back-pedaling movement and at any point where the rider finds it most convenient to apply the braking force with his feet.

Another important distinction between the two devices is that in Exhibit E–10 when the brake is applied it requires substantially no effort on the part of the rider to maintain the braking pressure, since when the brake is applied the brake does not tend to rotate the sprocket-wheel, and consequently the rider does not have to exert pressure to overcome such rotation. In the Farrow device, on the other hand, when the brake has been applied, it exerts a tendency to rotate the sprocket-wheel on account of the expansibility of the brake-spring, and consequently the rider is obliged to maintain force on the pedals in order to keep the braking pressure applied.

Cross-examination.

By Mr. EARLE:

Q. In your experience have you been engaged before the courts and the Patent Office in any matters pertaining or relating to braking and coaster devices, other than this one? A. Yes; in the case of an invention of a man by the name of Quinn, living in Milford, Massachusetts, who was also the inventor of a coaster and back-pedaling friction hub-brake.

411 Q. Have you ever used a bicycle equipped with either of the devices you have described here, known as the Farrow and the Morrow? A. I have never personally ridden a wheel equipped either with the devices of the Farrow application or with a device like Exhibit E–10. I have, however, examined bicycles equipped with mechanism like Exhibit E–10.

Q. You have stated that the projection d' of the brake-band of the Farrow device shown in Figs. 1, 2 and 5 of the hub-brake application 600,359, comes in contact with a latch which is arranged as a spring to the latch so that it only obstructs the movement of said projection d' during back-pedaling and so that if the sprocket-

wheel is turned in a direction to drive the machine, the latch will spring outwardly, and permit the projection *d'* to pass by. From this, then, I understand the projection can pass forward past the latch even if the projection is in register therewith. Is that so? A. No. In order that the projection should pass the spring-latch, it is necessary to rotate the sprocket-wheel forwardly almost a complete revolution. If during this complete revolution its screw-threads should not engage with the screw-threads on the flange of the hub, then said projection would encounter the spring-latch and it would swing out of the way.

Q. Then I understand what you mean to say is that it is necessary to move the projection inward axially on the hub clear of the latch to enable it to move forward past the latch? A. No, I
412 do not. On the contrary, under those conditions the latch would spring out of the way when the sprocket wheel was rotated forwardly.

Q. Do you find anything in the description of the Farrow application stating that the projection *d'* must be moved outward axially before the projection can engage the latch? A. The specification describes the sprocket-wheel or rim as screwing into the flange on the hub for the purpose of driving the bicycle, and the unscrewing of the same in order to disconnect the sprocket-wheel from the hub in order to coast. For example, at one point the specification says: "The wheel, continuing its rotation, at once unscrews from the sprocket-rim, which is held stationary by the chain and pedals." Such unscrewing necessarily implies an axial movement of the sprocket-wheel. Again, the specification says: "If the sprocket-wheels are in direct line when the rim is screwed to the hub, a slight sidewise movement out of line when coasting suffices to ensure engagement of the screw-threads at the first forward turn of the rim in resuming propulsion." These statements unmistakably show that the sprocket-wheel has an axial movement; and this is clearly shown in Fig. 1 of the drawings, which shows the sprocket-wheel moved outwardly a considerable distance from the hub of the flange, this figure showing a sprocket-wheel in a coasting and braking position. If the sprocket-wheel should be shown in a driving position, it would be shown with the part lettered *b* directly in contact with the vertical surface of the hub which is indicated approximately by a^4, as shown in this figure; thus indicating an axial movement of perhaps $\frac{1}{8}$ of an inch
413 as illustrated in this drawing, which is on a smaller scale than the actual device would be. Furthermore, the brake-spring is described as being connected to and moving with the sprocket-wheel. For example, the specification says, referring to the brake-spring, "It is secured to rotate with the rim by means of the lip *d* taking into a recess." I do not at present note that the specification in so many words says that that sliding movement of the sprocket-wheel moves the projection *d'* clear out of contact with the latch *e*, but Fig. 1 of the drawing shows that such is the case. If the projection *d'* should be left in engagement with the latch, then

the said projection would strike the latch once at each revolution of the sprocket-wheel and rear-wheel of the bicycle during the forward driving of the machine, which, while it would not be fatal to the operation, would be objectionable, both because it would give a clicking noise while the wheel was being driven, and there would be unnecessary wear both upon the projection and upon the latch. I assume, therefore, that the construction is such as is shown in the drawing, which shows a sufficient sliding axial movement to the sprocket-wheel to entirely disengage the projection *d'* from the latch during the forward driving of the bicycle.

Q. Could not the roller clutches, comprising the coasting mechanism shown in Figs. 3 and 4, be used with the brake mechanism consisting of the brake-spring, projection *d'*, and spring-latch, similar to that shown in Figs. 1, 2 and 5? A. I do not find any
414 suggestion of any such arrangement in the Farrow specification. At present I do not see how this could be effectively done except by some reorganization not indicated in the question. Assuming, however, that such clutches should be used, such an organization would necessitate the objectionable feature mentioned in the last question, to wit: that the projection of the brake-spring would be obliged to strike the latch at each revolution of the sprocket-wheel during the ordinary driving of the machine, unless some provision not indicated in the question and not suggested in the specification should be adopted to avoid it.

Q. Would the striking against the latch, which you have mentioned, affect the braking action? A. No, except that the constant contact with the latch would cause wear and would endanger the latch being rendered inoperative; and if such should be the case, then the braking action could not take place.

Q. You describe the claims of the application as allowed, and claims that were not allowed. Referring to allowed claim No. 1, would not a device that uses roller clutches or other kinds of clutches for coasting, such as would enable the sprocket to move straight back on the hub without axial movement when used in connection with an expansible brake-spring for applying the brake, be covered by and included within the terms of that claim? A. That would depend entirely upon whether or not the prior state of the art admitted such a construction being given to the claim. From my knowledge of the prior state of the art, I should say that such a construction could not be given to the claim without render-
415 ing it anticipated. So if the claim is so considered, it seems to me it would be anticipated by the Courtlandt patent, to which I have referred.

Mr. EARLE: I object to this answer, as not being responsive to my question, and move to strike it out.

The AUDITOR (after argument): The objection is sustained. The answer will be excluded from my consideration.

Mr. OSGOOD: We note an exception.

The WITNESS (continuing): The terms of the claim include the

words "all as and for the purposes described." I therefore understand that the language of the claim can be understood only by reference to the specification and drawings which illustrate the structure which the claim recites. Whether or not, therefore, the structure referred to in the question would be like the structure recited by the terms of the claim, would depend entirely upon what its construction, organization and mode of operation might be. The question does not state the supposed construction with sufficient fullness to enable me to know whether or not it has a construction "as and for the purposes described" in the specification of the Farrow application No. 600,359.

Q. Do you find that claim No. 1 describes in terms any particular form of means for automatically clutching the parts for propulsion and releasing? A. No, except that the claim refers to the specification for light upon this subject by the use of the words "all as and for the purposes described."

Q. In regard to allowed claim No. 2, could not various forms of automatic clutches for coasting and propulsion be used in connection with the brake means there described, and be described
416 by the terms of that claim? A. Assuming that the various forms of clutch devices were such as were capable of being used with the devices recited in the said claim, and that they were "as set forth" in the specification (to use the language of the claim), I should answer the question in the affirmative.

Q. In regard to allowed claim No. 3, could not various forms of clutch devices for permitting coasting be used in connection with the brake spring and detent of that claim and be described by the terms of that claim? A. Yes, provided that they were operative when used with the devices recited in the claim and their construction was "as and for the purposes described," as required by the language of the claim.

Q. Would not a device in which the coasting is effected by roller clutches or by friction clutches, which enables the sprocket-wheel to be moved directly back without moving it axially in connection with a brake-spring having overlapping ends and a stationary detent for engaging the brake-spring when the sprocket-rim is rotated backwardly, be described by the terms of that claim? A. No.

Q. Do you not find such a device or devices as are set forth in my last question actually described in detail in the original specification of Farrow? A. I think not. I do not find the description of any such devices in the original application.

Q. On what page of the record do you find a description in the original applications of the device shown in Figs. 3 and 4 of
417 the drawings shown on page 184 of the record, which you describe in your direct testimony? A. On pages 145 and 146 of the record.

Q. In the first line of the first paragraph of that description on page 145 of the record I find the word "same." To what does that word refer? A. As I understand, it refers to "the series of friction rollers" referred to four or five lines before.

Q. Referring to the preceding paragraph, to what do the preceding words, "the braking action, being that just described" refer? A. They refer to the statement made just before that, where the specification says: "A backward turn upon the pedals engages the lip *d* of the spring and recess, and the extension *d'* of the spring with the latch *e*. A strong pull backward upon the sprocket-rim applies the brake in a manner already described, and forward propulsion is resumed by a partial forward rotation of the pedals."

Q. Where is the construction described, in which the part that you have just set forth describes the operation? A. On pages 144 and 145 of the record.

Q. What is the nature of the construction set forth in that description? A. The specification says: "In Figs. 12 and 13 I illustrate a more perfect construction. The hub of the exten-on *a* is cylindrical, while the bore of the sprocket-rim is eccentric, so as to approach the hub more closely at the side b^5, and the spring is made thinner at this side, its overlapping ends occupying the nar-
418 row part of the annular chamber between the hub and rim, and its opposite side being thickened to fit the wider space. The rim has a limited movement of rotation upon the spring, this movement being difined by the length of the recess b^3 in the rim. When traction is applied to the chain the rim B is turned until the thick part of the spring wedges into the narrowing space between the rim and hub extension, and so grips and carries this with it to propel the wheel; and a reverse pull upon the sprocket by throwing the latter backward brings the sprocket recess b^3 in contact with the lip *d* and frees the friction grip upon the hub for coasting. If, upon forward traction, the spring slips upon the cylindrical hub *a* without securing a grip, its contact with the latch *e* will give the slight check requisite for the purpose. The extension *d'* of the spring engages a latch *e* mounted upon a circular disc E which fits upon a squared extension *q*, and is prevented from turning by a flattened extension *q'* of a cone-bearing Q, this flattened extension passing into the fork of the frame Fig. 14 and also serving to hold in place the dust-guard S." As here described, the sprocket-wheel is eccentric to the brake-spring, the brake-spring is made of different thicknesses, being narrowest where its ends overlap each other, the sprocket-wheel and spring-brake have a limited play between them, and the same brake-spring acts both as a friction clutch for forward driving and as a brake to clasp the hub during back-pedaling.

Q. You read from the record as far as the second paragraph on page 145. Will you please state what is described in the fol-
419 lowing paragraph beginning "a backward turn" &c.? A. I had already quoted what follows in my preceding answer, and the next preceding question asked me what preceded that. The language which is quoted in my second preceding answer follows the language quoted in my next preceding answer.

Q. In both those descriptions is it not true that the sprocket moves directly back and axially? A. The specification does not

state whether the sprocket-wheel moves axially or not. I judge, however, from the description that an axial movement of the sprocket-wheel is not necessary.

Q. I hand you drawing marked Complainant's Illustration No. 1. Please state whether this drawing does not show constructions corresponding to the descriptions referred to on pages 144 and 145 of the record.

Mr. OSGOOD: I object to the introduction of these drawings, for the reason that they appear on their face to be drawings that were not in evidence before the court prior to the granting of the decree; also because they are incompetent, immaterial and irrelevant; and also because this is improper cross-examination.

The objection was sustained by the auditor.

Mr. EARLE: I withdraw the question.

Q. From the descriptions which you have read, does it not appear that there were other devices described in the application No. 600,359 besides the two which you state in your direct testimony were illustrated and described therein?

Mr. OSGOOD: We object to that as incompetent, irrelevant
420 and immaterial; the application shows for itself. It is also improper on cross-examination.

The objection was overruled by the auditor, and an exception was noted by Mr. Osgood.

A. In my direct-examination I was asked the question as to what similarity or lack of similarity I found between Exhibit E–10 and certain exhibits which were shown to me, marked respectively Exhibit No. 3 W. M. F. and Exhibit No. 4 W. M. F. My answers were directed solely to these exhibits, which I stated I would refer to for the purpose of convenience only as the "Farrow hub-brake application." One of these exhibits then shown me (to wit, Exhibit No. 4 W. M. F.) is a drawing illustrating two specific constructions. It was these two specific constructions to which I referred in my direct examination. Exhibit No. 3 W. M. F. contains a copy of the original specification and claims filed in the application, which were subsequently canceled by amendment, in view of the rejection by the Patent Office of certain of the claims and the requirement of division on the ground stated in the following language in the official letter dated October 20, 1896: "The applicant is attempting to claim three distinct and independent inventions in one application: (1) That covered by claims 1, 2, 3 and 4; (2) that covered by claims 5, 6, 7, 8, 11 and 13; (3) that covered by claims 9, 10 and 12; and he is hereby required to limit himself to one of the above inventions." As the result of these requirements, the original specification and claims were canceled and a new specification
421 and claims were inserted. In addition, therefore, to the specific devices which I have heretofore considered in my direct examination, this original cancelled specification contains a description, and, I judge, an illustration of other devices, among

which is the device described at pages 144 and 145 of the record and the language quoted by me in answer to the cross-questions immediately preceding this one.

Q. Do you not find that all of the Farrow devices and the Morrow device (as shown in Exhibit E 10) contain a brake and coaster device in which the sprocket of the rear driving wheel is so mounted upon the rear hub as to drive the same in a forward direction, but having a loose engagement therewith, so that when the sprocket is held still, the hub and the rear wheel will travel forward without pedaling, so that the bicycle will coast, and in which a brake member is adapted to be moved against the hub by a backward movement of the sprocket, so as to produce a frictional contact on the rotating hub and effect braking action, the coasting action being effected by the rider of the bicycle holding the pedals still and the braking action being effected by back-pedaling, so as to carry back the rear sprocket-wheel and move the brake member against the hub.

Mr. OSGOOD: I object to the question, on the ground that it is not within the scope of what the auditor has himself determined to be the order of reference.

The AUDITOR: The witness can answer subject to objection.

A. No.

Q. What is meant by the term "braking friction"? A.
422 Such friction as is efficient to brake the wheel, that is, to bring the wheel to a standstill.

Q. Is braking friction the sole retarding power that both of the devices, which we term the Farrow and the Morrow, depend upon for the result that is sought to be accomplished by the two devices? A. No. In the Farrow device, shown in Figs. 1, 2 and 5 of the drawings, it is necessary for the rider to maintain a pressure upon the pedals after applying the brake, in order to maintain the braking pressure and to continue the exertion of backward pressure upon said pedals. Hence this continuance of the back-pedaling force, in addition to the braking friction, is necessary.

Q. Are both devices operated and controlled by the movement of the rider's feet on the pedals? A. Yes.

Q. Is it not possible for an invention to be changed in the details of its construction without affecting the result which it accomplishes? A. That depends upon the nature of the invention and the nature of the changes.

Q. In both the Farrow and Morrow devices, is not the braking action effected by moving backward the chain? A. May I ask to what you refer as the Morrow device?

Q. That as shown in Exhibit E–10. A. Yes.

Q. Do you not find that in the Farrow devices and the Morrow device as shown in Exhibit E–10, there is contained a brake
423 and coaster device in which the sprocket-wheel of the rear driving-wheel is so mounted upon the rear hub as to drive the same in a forward direction, but having a loose engagement on

the hub so that when the sprocket is held still the hub and the rear wheel will travel forward without pedaling, so that the bicycle will coast, and in which a brake member is adapted to be moved against the hub when the chain is carried backward so as to produce a frictional contact in the rotating hub and effect a braking action, the coasting action being effected by the rider of the bicycle holding the pedals still, and the braking action being effected by back-pedaling, so as to carry back the chain, and move the brake member against the hub.

Mr. OSGOOD: Objected to as incompetent, irrelevant and immaterial, and as not being within the scope of the order of reference as defined by the auditor.

The objection was overruled by the auditor and an exception noted by Mr. Osgood.

A. No.

Redirect-examination.

By Mr. OSGOOD:

Q. Independently of the form of the clutches, to be read into the allowed claim, state whether or not any of such claims would then describe Exhibit E–10?

Mr. EARLE: The question is objected to as being a repetition of what was brought out in chief.

The objection was overruled by the auditor.

A. They would not. Upon referring to my answer to a question on direct-examination in regard to the allowed claims
424 it will be seen that I made no mention of the differences in the form of construction of the clutches for the purpose of showing that Exhibit E–10 did not contain or embody the subject-matter of these claims.

Q. State whether or not continuance of pressure by the foot is not necessary in order to keep the brake applied in the devices shown in Figs. 3 and 4 of the Farrow application?

Objected to by Mr. Earle as unnecessary repetition.

Objection overruled by the auditor.

A. It is; otherwise the chain would slacken, the pins *g g*, would come outwardly, and the brake-spring would expand and no longer exert friction upon the hub.

Adjourned until 10 o'clock a. m. tomorrow.

425 WASHINGTON, D. C.,
TUESDAY, *November 26th*, 1901—10 o'clock a. m.

The hearing of the case of Farrow *vs.* The Eclipse Bicycle Company was resumed before the auditor, pursuant to adjournment.

Present on behalf of the complainant, Mr. Henry M. Earle and Mr. John C. Gittings.

Present on behalf of the defendant, Mr. A. S. Worthington, Mr. Howard L. Osgood, and Mr. D. S. Mackall.

CHARLES E. FOSTER, a witness called on behalf of the defendant, having been first duly sworn, testified as follows:

By Mr. OSGOOD:

Q. Please state your name, age, residence and occupation? A. Charles E. Foster; sixty; Washington, D. C.; patent attorney and mechanical expert.

Q. Please state your experience in the matter of the comparison of mechanical devices with each other, or with drawings and descriptions, and, in general, your qualifications to testify as an expert. A. I have been engaged in the practice of my profession since 1859; I am a practical mechanic, familiar with the ordinary tools used in mechanical operations, wood-work and metal work; and am a practical draughtsman, having made thousands of draw-
426 ings, illustrative and working drawings; have constructed, or aided in the construction, or have directed the construction, of very many different kinds of mechanism; have always had a shop and tools at my disposal, and have had frequent occasion to make use of the same. I have also had frequent occasion, as a mechanical expert, to superintend the construction and operation, as well as the testing, of very many different kinds of mechanical devices in workshops. I am an active member of the American Society of Mechanical Engineers, and was for several years the editor of the patent department of the American Exchange and Review. I have, throughout my professional career, been constantly called upon to examine into the state of the arts in various different branches, and to compare drawings and descriptions, and give my opinion as an expert as to their construction, their comparative resemblances and differences, and their operations. I have prepared and prosecuted very many thousand applications for letters patent. I am familiar with the construction and operation of all the different forms of bicycles, tricycles and velocipedes and motor vehicles that have been put on the market, as well as many other forms which have been devised; and have been a practical bicyclist since 1856, when I rode a steering front fork French bicycle; and have practically used or tested, I think, nearly every form of bicycle or tricycle or velocipede that has been produced. I have had occasion to spend a great deal of time in various manufactories where this class of vehicles have been designed and constructed, and have had occasion to testify before courts, in connection with the constructions,

of different parts of such apparatus, and have given my ex-
427 pert opinion in relation thereto, and as to the construction of the claims thereof, in the mechanical sense.

Q. I show you Exhibits Nos. 3 and 4 W. M. F. Please state whether you have examined and understand the same? A. I have examined and do understand the same.

Q. I show you Exhibit E–10. Please state whether you have examined and understand it? A. I hade and do.

Q. Please compare the said Exhibit E–10 with the Exhibits 3 and 4 W. M. F.; point out the resemblances and differences; and give your reasons for your statements. A. My understanding of Exhibit E–10, of course, is derived from the actual construction illustrated therein. My understanding as to the construction and operation in Exhibits 3 and 4 W. M. F. must of course, be derived from an inspection of the drawings and from the terms accompanying the description. I will refer to the construction of these two exhibits as the Farrow brake. Taking the description, which is the source of my information, as the sole means of understanding this device of the Farrow hub-brake, I find that it sets forth that the device relates to coasting and brake mechanism, and that the device itself is an "improvement" on what is stated to be a coasting and brake mechanism, which I therefore understand, from the description, refers to antecedent characters of structures which effect coasting and brake purposes in a bicycle, or, as stated, "bicycle and like vehicles." Under the term, "like vehicles," I understand to be included bicycles, tricycles, quadricycles, and the various different well-
428 known forms of bicycles like the Star, Safety, &c. The specification in its preamble sets forth the general operations of the Farrow device, and then states that the means whereby these operations are effected are "by means of the sprocket, chain and wheels." I find, from an examination of the whole description, that this statement as to the essential operations being effected by the sprocket chain and wheels designates really the peculiar operation of the Farrow device, that is, it is one which depends, for its efficiency, in one construction, upon the peculiar arrangement of the sprocket-wheels and the sprocket-chain in connection with the hub having an extension upon which the rear sprocket can move axially. The other construction set forth is stated to be "radically" different from the first, but I recognize that, like the first, it depends upon the relation of the chain and rear sprocket and adjuncts to effect the essential relations. The characteristic feature of the construction shown in figures 1, 2 and 5 of the Farrow device is that the two sprockets, instead of being placed in line with each other, as usual, are set so that one of the sprockets is to one side of the line of the other sprocket. Now it is a fact in mechanics that if you have a belt extending at an angle to a wheel, around which it passes, there is always a tendency of the belt to bring itself at a right angle to the shaft of the wheel, and if that wheel can slide upon the shaft then the result is that the tendency of that belt to bring itself into a line at right angles with the shaft will

be to carry that wheel along the shaft until the belt does assume that position. I find that Farrow made use of this well-known
429 principle of mechanics to carry out the purpose of his invention; and in this connection he provides the hub of the rear or driven axle with an extension, so that the sprocket upon that hub may slide axially, under the peculiar effect of the chain which I have described. As a result of this arrangement, when the front sprocket, to which the pedals are connected, is held stationary, the rear sprocket being also held stationary, and is disconnected by the action of the engaging threads (marked in the Farrow drawing *b*) with the threads upon the hub, and the rear sprocket is moved axially out of line with the front sprocket by the action of this thread in the act of unscrewing; the rear wheel at that time turning forward, as the chain is held stationary, so that this unscrewing action takes place. But when the forward sprocket is propelled by the action of the rider in turning the pedals, the tendency, which I have before described, of the chain to assume a position at right angles to both axles, imparts a sliding motion to the rear sprocket upon the extension of the hub, and carries it inward until the threads engage and the sprocket is practically fastened to the rear wheel; and the power of the chain is employed to drive the rear wheel as the pedals are turned. I find from the description that the braking action is to be effected by placing upon the hub extension directly a spring band, the ends of which are overlapped, and one of them is attached to the rear sprocket wheel, and ordinarily would turn with that rear sprocket wheel when it turns upon the hub, and effects no purpose so long as the rear sprocket wheel is turned forward. But when the projection *d'*, on the other end of this spring brake-band, is brought against a stationary object
430 (as, for instance, a latch *e*, which is then relatively stationary) and the rear sprocket wheel is turned back, it carries the end to which it is attached over the end which is stationary, and binds them on to the hub with more or less pressure, according to the power exerted directly by the rider in turning back the pedals so as to secure a greater or less braking effect. The latch *e*, to which I have referred, is so hung that when the wheel is turned forward and the projection *d'* hits that latch, it forces it out laterally so that it has no effect whatever in connection with the brake ring; but this results from the fact that *d'* has a beveled edge, which, when the projection moves forward—that is, in the direction of the hands of a watch—will carry the latch laterally out of the way. When, however, the rear sprocket is turned backward (and it has turned for a sufficient distance, it may be clearly a whole revolution or part of a revolution) the abrupt shoulder of the projection *d'* hits against the latch *e*, and then at once holds that end of the spring so that the other end which is attached to the sprocket-wheel will then be drawn upon to bind the spring around the hub and apply the braking action. It, of course, will be seen that if the rear sprocket is axially moved outward and this projection *d'* strikes this latch at every revolution, it would result in a clicking action, and this would

happen if it were not that, owing to the arrangement of the chain, the sprocket on the forward motion is carried axially inward so that its threads engage with those upon the hub, when the projection d' will be carried away from the latch and will not strike it. In the construction, figures 3 and 4, the chain and the
431 rear sprocket and its adjuncts also serve as a means of effecting the purposes of the applicant Farrow; that is, the chain in this case operates upon certain pins $g\ g$ which extend radially outward through the rear sprocket, and when these pins are in the proper position force them inward, and force inward the bar F shown in Fig. 4, so that the pins $f\ f$ which extend from the side of that bar come upon the tapered ends of the ears $d^2 d^2$ so that when these pins are forced inward the ears d^2 are brought together or towards each other, and thereby contract this band upon the hub. Now the chain is an essential factor in this case and in the other construction to affect the operation of the parts, which operation of tightening the band can only result when the pins g (shown in Fig. 3) are in such a position that the chain will bear upon them; that is, for instance, if they are at the top instead of being at the right, as shown in Fig. 3. When they *are* at the right, as shown in Fig. 3, and the sprocket B is arrested or held stationary, there is of course no braking effected. But if the sprocket is turned backward so as to bring the pins g under the parts of the chain between the sprocket teeth, then the pins will press inward and the pins f are brought on the opposite sides of the tapering ears d^4, with a tendency to carry these ears towards each other, and bite the band upon the hub. I may say that I have not gone into extreme detail in describing the construction of these parts, because I have read the testimony of Mr. Browne, which sets forth this matter even more clearly than I can do, and it is not necessary to repeat
432 it. Now, referring to the device E–10, I do not find in the device a single feature which, in my opinion, is the same, or the equivalent of any device or part of the Farrow device for effecting propulsion or coasting or the braking operations. Neither do I find that the principle of operation is the same as either of those set forth in the description and drawings of the Farrow structure. In fact, it would be difficult to secure the results required in the braking and coasting of a vehicle by two devices more totally dissimilar than those of E–10 and of the Farrow drawing and description. Comparing the construction of Figs. 1, 2 and 5, for instance, the Farrow device has a sprocket-wheel connected with the rear driving-wheel of the vehicle, which is normally out of line with the front sprocket, except in propelling forward; and there is no such arrangement in Exhibit E–10. On the contrary, this arrangement in Exhibit E–10 would result in a serious defect, and no rider would use a wheel with the parts in this position. Again, in the Farrow structure, the rear sprocket must have an axial movement in order to carry out the purposes as described in the Farrow description, in connection with the chain and front sprocket. While in Exhibit E–10 there is no axial movement to the rear sprocket.

In the Farrow structure the braking action is the result of a rotation of the rear sprocket until the projection *d'* is brought against a stationary part of the frame, when the brake pressure is applied by the power of the rider until the wheel is brought, say, to an absolute stop, where it must be held against rotation by the power of the rider, as, for instance,
433 in descending a steep and slippery hill. In the structure E–10, on the contrary, the braking action results, not from the abrupt contact with any fixed part of the frame, but from the pressure of the brake ring or band, which is forced into its tapering socket until the parts come to a fixed position, and thereafter the tendency of the rear wheel and brake wheel to turn is resisted by the arm from the brake ring which is connected with the frame so that the power of the operator is not depended upon in this case to hold the parts in their fixed relation, but the resistance is practically taken up by the frame itself. Another very important difference in the two constructions and their results is that in the Farrow structure if the projection *d'* has not quite reached the latch *e* at the time that it is necessary to apply the brake, the rider must rotate the pedals backward until that projection *d* is brought all the way around to a position to strike the latch *e*. This is a very serious factor to be considered in the Farrow structure, as anyone who is in the habit of riding knows, because there may not be time to turn the pedals back to the extent necessary to secure the braking action. I have had various experiences where the necessity of turning the pedals back for half or more than half of a revolution would have resulted in a serious accident. In Exhibit E–10, on the contrary, the brake-cone has no such relation circumferentially to the part with which it engages, nor has it any extended movement before the braking action begins. On the contrary, the very instant the sprocket-wheel is turned backward, (Mr. Browne has figured it as being 1/12 of a revolution, and it might be less,) the braking
434 action begins; so that, under the greatest exigency, the rider has the wheel under perfect control. Another radical feature of difference connected with this application of the brake is that in Exhibit E–10 the braking action results from the cone entering a conical socket which is fully inclosed and unexposed, and therefore can always act under every possible condition, whereas in the Farrow structure the braking action results from the contact of the projection *d'* with the latch *e* which is swung outward by a small spring; and in riding over a very muddy road it would be inevitable that the mud would be thrown into the space between the spring and the latch and thereby render the device inoperative. The same result would ensue is moisture entered between those parts, (as it certainly would do in cold weather,) and froze there. In some kinds of weather, the whole bicycle would be covered with sleet, or at other times with mud. Another point of difference which I find between the two structures is that, assuming that there is any frictional resistance to the axial movement of the rear sprocket in the Farrow structure, or if the front sprocket is not sufficiently out of line to

cause the proper action upon the rear sprocket, the latter may not move inward with sufficient quickness upon starting the forward pedal, after the pedals have been at rest, and the result will be that the pedals will be turned around without driving the rear wheel. I have found, in Exhibit Farrow No. 1 Model, that this result occurs, and if it occurred in actual riding—if, for instance, a rider had been riding down hill, and upon coming to a rise, should
435 attempt to pedal, he would simply turn his pedal shaft around without driving his wheel, and he might have a fall. This could not possibly occur with the construction of E–10, where the movement, instead of being uncertain, as I have before indicated in the Farrow structure, is one of absolute precision. I therefore do not find, in comparing the Farrow structure, figures 1, 2 and 5, a single element which is the same as that of the device of E–10. Nor do I find any element which operates in the same manner as do any of the devices in E–10. Nor do I find any device in Exhibit E–10 which is the same, either as to its details, operations, or principles of operation, as that in figures 1, 2 and 5 of the Farrow device. As to the construction of figures 3 and 4 of the Farrow device, the differences are even greater if possible than between this and Exhibit E–10, than in the other case. There is nothing in Exhibit E–10 corresponding to the band with its tapering ears to be contracted around the hub; there is nothing corresponding to the pins *g* extending radially through the rear sprocket; there is nothing whatever in Exhibit E–10 which has such action as the chain would have in figures 3 and 4 of the Farrow device in applying, by its direct pressure and pull, the braking band to a hub. Independently of this, however, I may say that, in my opinion, this construction of figures 3 and 4 is absolutely impracticable. Even if it operated in every respect as indicated in the description, the rider absolutely can never know when he is on his seat as to what position
436 the parts are in, so as to be able to apply the brake at the proper time. If, for instance, he wants to coast, and it is necessary to bring these pins *g* to a forward position, like that in figure 3, there is no way in which he can know that they are in that position. If the rear sprocket and the front sprocket were both of the same size, then of course there would be synchronism in the rotation of the rear axle & pedals, and the rider would know that when he had the pedals in one position the pins would be in a corresponding position. But the forward sprocket is much larger in all cases than the rear sprocket, and the consequence is that the rear sprocket may turn 2, 2½, 3 or 3½ times to each rotation of the forward sprocket, and consequently if the pins *g* are in the position of figure 3 when the pedals are forward, or in a horizontal position at one movement, at the next rotation of the pedal shaft these pins *g*, instead of being in the same position, would be somewhere else; and there is absolutely no way by which the rider can know what is going to be the result of stopping the movement of his pedals; it may result in applying the brake, or it may result in putting the parts into a coasting position; and while he is feeling

around to find out how the parts are operated, he may meet with a serious accident. In Exhibit E–10 there is, in consequence of the difference of construction, absolutely no such possible result. The rider always knows under all conditions that if he brings his pedals to a rest, the rear wheel can turn freely, and he knows that the slightest backward movement of the pedals—

437 as I have found in actual use—will begin to apply the braking pressure, and this may be increased by a slight further backward movement until the parts are absolutely locked together, and then this arm which runs forward from the brake ring to the frame practically takes up the pressure, so that the rider has to exert very little power, for instance, in moving down a very steep incline with the rear wheel at rest, as is sometimes necessary for purposes of safety. I therefore cannot find any feature of resemblance or similarity, either in construction or operation or principle of construction, between the structure of Exhibit E–10 and that set forth in the Farrow description and drawings, figures 3 and 4.

Q. Mr. Foster, will you please illustrate and explain to the court these operations and constructions that you have been mentioning, with reference to these particular models, Farrow No. 1 and Farrow No. 2—the point being simply to show the court the mechanism in the concrete, not merely in words and lines on paper? A. In Exhibit Farrow No. 1 Model, the hub of the rear wheel is extended so as to support the rear sprocket, and this rear sprocket can slide axially as well as turn freely upon that hub. When the rear sprocket is in its outer position, it is out of line with the front sprocket; and consequently, (owing to the peculiar action of a belt in tending to assume a position exactly at right angles to the shaft over which it is driven) when the pedals are moved forward, the chain carries this rear sprocket inward so that the threads inside the same engage with the threads inside the hub of the rear wheel; and this at once

438 causes the rear wheel to be moved by the pedal action of the rider. Now, if the rider, while pedaling forward, suddenly brings his pedals to rest, the effect of the engaging screws upon the rear sprocket and the hub is to force that rear sprocket axially outward and disengage the parts, so that when the rider holds the rear sprocket at rest by resting on his pedals, the rear wheel can turn freely, as in coasting. If, now, the rider turns back the rear sprocket by back-pedaling, the operation will continue until the projection at the side of the spring of the rear sprocket is brought around and hits the latch which slides on the frame. The latch, as shown in this model, is not precisely like that shown in the drawing of the Farrow application, but the effect is the same, that is, it then arrests the movement of the end of this spring, (represented by the projection d', in Farrow's drawing) and as this rear sprocket goes around and carries the other end of the spring around, it binds the spring against the hub. I have shown, by the operation which I have performed with this model, that if the projection d' is very near the latch, but has not passed it, at the time the rear motion

begins, the rear sprocket and pedals must be turned almost a complete revolution before the braking movement can begin, and of course the time taken must be a very serious factor in some cases. The gears are differently proportioned in different bicycles. Expert riders require a very large forward wheel and a very small rear wheel; and, in proportion as riders desire to ride easily, without attempting to race, the relative differences diminish.

By Mr. WORTHINGTON:

Q. Take the two extremes, how far would the machine
439 travel before the brake could be applied? A. In some cases there might be a full half revolution of the front pedals before the brake action begins, resulting in allowing several feet of travel. It will be seen, from this Farrow No. 1 model, that it is possible to turn forward the pedal shaft without bringing the rear wheel into operation. This will occur sometimes, as I am showing now. The construction of Farrow No. 2 model corresponds generally with figures 3 and 4 of the Farrow drawing. It will be seen that the pins (corresponding to *g* in the drawing), which extend radially through the rear sprocket, are forward in the position which the parts may occupy, as I show in the exhibit and the pedal shaft may have its pedals horizontal; but on the next revolution, by which its pedals are brought to a horizontal position, the pins *g* are not in a forward position, but are at the rear of the wheel; at the next revolution one of those pins is near the top and a little forward; at the next revolution one of them is at the bottom and a little forward; and at the next revolution they are both back and covered by the chain. So that the rider can never know, from the position of the pedals, what the position of these pins *g* is, and it depends upon the position of those pins, in connection with the chain, as to what the operation of the device will be. Therefore the control of the structure is in every case to be determined experimentally, and the rider can have no positive knowledge as to the effect of stopping his pedals in any position.

By Mr. OSGOOD:

Q. Please state whether the relative size of the sprocket wheels
in that model is a common one. A. In this model the sizes
440 are those which are to be found in very many bicycles in use; it is a very common size; I do not know exactly what the gearing is, but it is such as is commonly seen.

Q. Referring to the Farrow application, please explain what the effect would be of getting mud or ice upon the flange P′ in figure 1, and what would be the effect of mud or ice upon the pins *g* or on the rim of the sprocket wheel, as shown in Figs. 3 and 4. A. I will state that it has always been found objectionable—that frequent objection is raised by manufacturers—in constructions connected with bicycles that there should be one part moving within another where it is possible to have mud or moisture enter. In the construction as shown in Fig. 1, moisture, dust and mud undoubtedly would pass

the flange P′ into the annular recess P, and this would render the whole device absolutely inoperative, and dangerously inoperative, because the moment that this resulted so that the rear sprocket could not slide axially inward, the machine would be out of the control of the rider, so far as forward propulsion is concerned, because the sprocket P could not be moved inward, and there are no ready means by which this difficulty could be overcome. It would be necessary to disassemble the parts. I am of the opinion that no manufacturer would think for a moment of constructing such a device for actual sale upon the market. I think I am competent to express this opinion, because I have very frequently attended conferences of manufacturers and their workmen, and designers and draughtsmen, in which the practicability of various construc-
441 tions has been discussed over and over again. I am referring to bicycle manufacturers.

Q. Supposing a manufacturer did take up this construction, what, in your opinion, would be the value of it, or the acceptance of it by the public?

Mr. EARLE: I object to that, because it is not a question of what the public would accept. The question before us is, What was accepted by this company.

The AUDITOR (after argument): This question of whether the public would have bought this machine is clearly so incompetent, it seems to me, that I do not care to hear further argument.

Defendant's counsel noted an exception.

Mr. WORTHINGTON: We now offer to prove by the witness, from his experience as a mechanical expert, and particularly by his acquaintance with bicycle machinery, that, in his opinion, if bicycles had been constructed with the hub-brake, as described in the Farrow application and drawing in evidence, there could have been no market for them, for the reason that their inutility and dangerous character would have been obvious to all persons who used bicycles. This evidence is offered, with the other evidence already in, for the purpose of showing that there is a substantial difference between the device represented by Exhibit E–10 and the device represented by the Farrow application for a hub-brake.

The AUDITOR: I understand that that statement is in support of the question, to which objection was made, and which objection I have sustained.

Mr. WORTHINGTON: Then I will ask the witness: You have heard my offer of testimony; I will ask you whether or not,
442 in your judgment, that is a fact.

Question objected to by complainant's counsel.

The AUDITOR: I hardly think that is the way to put the question.

Mr. GITTINGS: We move to strike out the offer, and also move to strike out the answer prior to that, as not responsive to the question put by Mr. Osgood.

The AUDITOR: The motion to strike out will not be acted upon at present. It will stand.

A. (continued). I have not yet answered that portion of the prior question as to the effect of mud or ice upon the action of the pins *g* in Figs. 3 and 4. The presence of mud and ice upon the rim of the rear sprocket would undoubtedly interrupt the operation of these pins, even assuming that the entire device were practicable, which, as I have before stated, I do not consider to be the case.

By Mr. OSGOOD:

Q. In Exhibits 3 and 4 W. M. F., please take the claims allowed in the application by the Patent Office, and compare them with the Exhibit E–10, and point out the similarities and differences. I refer to the claims on marginal page 171, marked 1 (6) to 4 (9). A. I find that each of these claims, except claim 4, is specifically for certain features to be embodied in a coasting and brake mechanism, or, as stated, in claim 4 in "a combined coasting and brake mechanism for cycles."

Referring to claim 1, that claim calls for a combination of the following features:

443 (1.) The extension hub. I here refer to the fact that each one of the claims except claim 4 terminates in the expression "all as and for the purposes described" or an equivalent expression, in each of the claims, referring back to the specification or description. Therefore, when any term is used in a claim, I must understand that term to mean the thing which is described by that term, in the specification and which has the functions set forth in connection with the thing described by that term in the specification. Now I find that the extension hub in the specification is a hub having such an extension that the rear sprocket-wheel can slide axially thereon, and I do not find in Exhibit E–10 any hub having extension upon which the rear sprocket can slide axially.

(2.) The next element in claim 1 is "the expansible brake-spring mounted thereupon." This is the brake-spring which encircles the hub, and which is brought, under certain conditions, to clasp, and under other conditions to unclasp, from the outer periphery of the hub so as to effect or release the braking action. There is absolutely no brake-spring in Exhibit E–10, no expansible brake-spring, and there is nothing which is caused to contract upon or relieve itself from the hub. The tapering brake-ring in Exhibit E–10 is not "mounted" upon a hub, but is practically mounted upon the frame, and in no way resembles or approximates in construction or operation the second element of claim 1.

(3.) The third element of claim 1 is "the sprocket-rim mounted upon the brake-spring." There is a sprocket-rim in Exhibit E–10, but it is not a sprocket-rim mounted upon a brake-spring, and in fact has no direct connection with the very different braking

444 devices that are in that structure.

(4.) The fourth element of claim 1 is "means for automatically clutching the parts for propulsion and releasing them for coasting." These means are defined in the expression "all as and for the purposes described." Now I do not find any means in Exhibit

E–10 which clutches together what must be recognized under the term "parts," as corresponding to what is meant by this term in claim 1, there being no such parts to be clutched together "as and for the purposes described" in said claim. I have before pointed out that the means for propulsion, as described in the Farrow description, in connection with Figs. 1, 2 and 5, are the two sprockets arranged out of line with the intermediate chain, and that the releasing for coasting consists in the arrangement upon the sprocket of certain threads which co-act with those upon the hub and which carry the sprocket-wheel axially outward. There is nothing of this kind in Exhibit E, and it would be a misuse of language to say that any of the parts in Exhibit E–10 were "all as and for the purposes described" in the Farrow specification or description. Nor do I recognize that any of the parts or their operations, singly or together, that are in Exhibit E–10 are the equivalents of those set forth in the Farrow description. They are not parts which are substantially alike, or which operate under like conditions to produce like results.

Referring to claim 2, I find that the first element is the extension hub, which, as I have before pointed out, is a hub so extended and constructed that the rear sprocket wheel can have an axial
445 movement thereon under the effect of the chain. This certainly is not in Exhibit E–10.

The second element is the brake-spring with overlapping ends. The term "overlapping ends" being a limitation or further expression of detail of construction which is not in claim 1, and there is nothing whatever corresponding to this or which could possibly come under these terms in Exhibit E–10.

The next elements are "the sprocket rim and automatic clutches for propulsion and for coasting together." The claim terminates with the words "all as set forth," which of course mean that the automatic clutches for propulsion and coasting are clutches as set forth in the specification, and I have pointed out that there are no such clutches as are set forth in the Farrow specification to be found in Exhibit E–10. The next element is "means for applying brake to said extension hub by a backward rotation of the sprocket-rim." As I have before pointed out, there is no brake applied to an extension hub, and in fact no extension hub in Exhibit E–10. So that this feature is not to be found in said exhibit, and it therefore does not, either as to its details of construction or combination or arrangement of details of construction, embody what is set forth, or the equivalent of what is set forth and specified in claim 2.

Referring to claim 3, this claim calls for the extension hub, brake spring with overlapping ends, sprocket rim and automatic clutch devices, which I have before referred to in connection with the other claims, with an additional feature to wit: a stationary detent for engaging the brake spring when the sprocket-rim is rotated backwardly. This refers to the latch *e*. As there is no brake-
446 spring in Exhibit E–10, there of course could not be any detent for engaging it when rotated backwardly. As I have before pointed out, this is a positive and direct engagement of a part

carried by the sprocket and a relatively stationary part on the frame to effect the braking operation at a certain definite period of backward rotation of the sprocket-wheel. There is absolutely nothing of this character in Exhibit E–10 where a frictional and not positive engagement of the braking parts may take part at any part of the revolution. These parts, in consequence of their absolute differences in construction and operation, cannot under any conditions be termed the equivalent of those mentioned in the claim.

Referring to claim 4, it is stated "in a compressed coasting and braking device for cycles," to be for a combination with a clutch device for permitting coasting without revolving the pedals, with the following features:

(1.) "Brake comprising a spring." I have before pointed out in what this brake consists, and I do not find in Exhibit E–10 any spring constituting a brake, or any brake which is compressed by a spring. There is the further limitation that this brake shall "be located within the coasting devices and having its ends overlapped and provided with projections." These very specific limitations are to the structure shown in Fig. 5 of the drawing, and there is nothing whatever in Exhibit E–10 which in the slightest degree is analagous to a spring-brake wound upon itself and provided with projections, as called for by this element of the claim.

The next element is a "catch or detent for engaging one end of the spring." There is no catch or detent for engaging a spring
447 in Exhibit E–10. The claim also specifies that the other end of the spring is engaged by the driving sprockets, by which is meant that this end is connected directly with the driving sprocket, so that the spring is carried by the rotation of the sprocket in such manner as that the backward rotation of this sprocket would compress the spring when this other projecting end *d'* engages the catch or detent. I have before pointed out that there is nothing in any way analagous to this in Exhibit E–10.

Claim 4 is practically a claim for the combination of a spring band with overlapped ends and projections with the other parts of the structure. I not only do not find this in Exhibit E–10, but I find nothing that is the equivalent thereof.

448 Q. Have you in your preceding answer, borne in mind the relation of Figs. 3 and 4 of the Farrow drawings to your construction of the claims? A. I have not expressed that relation, although I had it in mind, but through an oversight failed to refer to it. As regards each of the claims which call for the element "the extension hub"—that is, claims 1, 2, and 3—I do not consider that Figs. 3 and 4 could properly be thus referred to in these claims, because there is necessarily not any extension hub, which, as I have before pointed out, is a hub for the reception of a sprocket wheel capable of axial movement thereon. I am therefore of opinion that these claims have no relation to and do not set forth as the invention of the applicant the constructions represented in Figs. 3 and 4. The same as regards claim 4. As I have pointed out, it is specifically for the band with overlapping ends and projections, and there

is nothing of this kind shown in Figs. 3 and 4. Therefore I do not consider that any of the claims to which you have referred me in your question have any relation to what is shown in Figs. 3 and 4, or that the construction of these claims comes within the terms of those claims.

Q. How about the last element of claim 3, with reference to Figs. 3 and 4? A. I have not referred to the elements, but to the combinations of the different elements.

Q. Please take the claims in the Farrow application, in ad-
449 dition to those you have discussed, and which were not rejected by the Patent Office, and compare them with Exhibit E 10, and point out the resemblances and differences, giving your reasons. I refer to claim 4 on marginal page 150, to claim 9 on marginal page 151, to claim 10 on marginal page 152, to claims 12 and 13 on marginal pages 152 and 154, to claim 4 on marginal page 170, and to claim 10 on marginal page 172. A. Referring first to original claim 4, this calls for certain devices to be "in a coasting mechanism for bicycles" with the following elements:

(1.) "The extension hub." I have before pointed out that I do not find this in construction Exhibit E 10.

(2.) "The sprocket rim." As I have before pointed out, this is the rim which has an axial motion upon the extension hub, and is not in Ex. E–10.

(3.) "Automatic clutches and spring pressed clutch and lever with its releasing mechanism." I find no such element as this in the construction Exhibit E 10.

These parts are to be in combination with—

(4.) "The latch for retaining the clutch from engagement," and—

(5.) "The knock-off for depressing the latch."

Neither of these elements nor anything corresponding to them are in Exhibit E 10.

Original claim 9, among other elements, calls for "a brake spring, loosely and eccentrically mounted," upon the hub, "the sprocket-rim mounted eccentrically upon the brake-spring, and a fixed detent for preventing backward rotation of the brake-spring." There
450 is nothing whatever in Exhibit E 10 corresponding either directly or substantially with such elements.

Claim 9 also specifies as elements the brake spring with "thickened and thinned sections," and specifies "the spring forming an eccentric seat or bearing for the sprocket rim mounted thereon," with the statement that "when traction is made upon the rim it is caused to grip the brake-spring for the propulsion of the driving wheel." There is nothing whatever of this character in Exhibit E 10, nor does the latter embody any of the elements which I have specified as called for in claim 10.

Referring to original claim 12, this also specifies as elements "the brake-spring thickened at its central section and thinned towards its overlapping ends," and for lip and side extensions for engaging both the sprocket rim and the fixed part of the bicycle, with the

statement that "traction can be applied to the ends of the spring for drawing it into frictional engagement with the hub extension." There is no such spring or any spring having such construction and action to be found in Exhibit E 10.

Referring to original claim 13, the claim calls for "the hub extension." I do not find this in Exhibit E 10. It also calls for a sprocket rim and brake-spring interposed between an extension and the rim. There is nothing of this character in Exhibit E 10. The claim further calls for a brake-spring with an extension taking into a recess in the rim with a side extension combined with a cone-bearing and a disc E carried in the cone bearing, and detent *e* and saucer-shaped dust-guard *s*. These elements are not to
451 be found in this combination or in any combination in Exhibit E 10.

Claim 4 of amendment (page 170) specifies as elements, the extension hub, sprocket rim, automatic clutches, spring-pressed clutch, and a lever and certain releasing mechanism, combined with a latch for retaining the clutch from engagement, and a knock-off for depressing the latch. This is the same as original claim 4, which I have before considered.

Claim 10 (page 172) is a claim calling for the rear axle and sprocket and radially disposed openings in the sprocket. There are no such sprocket and openings in Exhibit E 10. The claim also specifies a clutch device comprising a sliding disc having pins to enter said openings. There are no such disc and pins in Exhibit E 10. The claim also specifies means for sliding said disc on the axle. Exhibit E 10 does not have any means for sliding a disc with radially disposed openings and pins upon an axle. I therefore do not find in Exhibit E 10 the devices or the combination of devices, or any devices, which are substantially the same or embody substantially the same combination as those specified in said claims.

These claims describe, either taken alone or in connection with the specification or description, radically different structures from that to be found in Exhibit E 10, operating upon different principles and in a different manner.

Q. Taking the specification as a whole, without regard to any claims, state whether you find anything in it like or sub-
452 stantially like Exhibit E 10? A. There is nothing like or substantially like Exhibit E 10 described or indicated or suggested in the Farrow specification or drawings.

Cross-examination.

By Mr. EARLE:

Q. Do you find that Farrow was, under the claims allowed, restricted to the construction which you have described, by which a revolution may be necessary before the latch and detent register? A. In my opinion the claims that were allowed all apply to the construction of Figs. 1, 2, and 5, and in that construction such an

operation is essential. There being no suggestion that the construction might be so arranged as to avoid this result, and the claims having been allowed upon the specification which describes the construction, which has only this result, I consider that it is an essential feature of the construction covered by the claims, and that he was therefore restricted to this construction by the claims.

Q. In your opinion, is there a sufficient similarity between the Farrow hub brake and the device as shown in Exhibit E 10, to enable the use of one as a substitute for the other in order to permit by the rider the instant cessation of the act of pedaling without removing his feet from the pedals, the bicycle continuing in the meantime without shock or jar to go on with its own momentum, and to enable the use of a brake that is operated by the
453 pedals, whereby the absolute control of the wheel is at all times maintained, the forward propulsion being resumed at will or the wheel almost instantly braked to a full stop.

Mr. OSGOOD: The question is objected to as absolutely immaterial. The question of substitution, suggested in the question, is not material to the issues in this case in any way. The question is incompetent, irrelevant, improper cross-examination, and not based at all upon the contract.

The AUDITOR: I think I will allow the question to be answered.

Mr. OSGOOD: Note an exception.

A. Your question does not distinguish between the two radically different structures of Farrow as set forth in his description and drawings. As regards the construction of Figs. 3 and 4, this certainly could not be substituted for the structure of Exhibit E 10, because, in my opinion, it is absolutely inoperative as an efficient brake or coaster. In fact, it would be dangerous to the life and limbs of the rider. As regards the structure of Figs. 1, 2, and 5, I do not consider that it would be an effective substitute for Exhibit E 10, because of its extreme liability to be inoperative from the effects of moisture, frost and mud; and further, because the described arrangement, of the sprockets out of line with the connecting chain, is one which cannot be absolutely depended upon under all conditions. For this reason I do not consider that Exhibit E 10 would, under any circumstances be a substitute for either of the Farrow constructions. I know that I would not accept it as
454 a substitute therefor, as a bicycle rider, and I do not believe that any skilled bicycle rider would so do.

Mr. GITTINGS: I move to strike out the last sentence of the answer, as not responsive to the question.

The motion was overruled by the auditor.

By Mr. EARLE:

Q. Did you ever operate a bicycle that was equipped with the device which I have termed the Farrow hub brake? A. I have not.

Of course I have tested the operation as indicated in the Farrow No. 1 model, and the Farrow No. 2 model.

Q. Will you please indicate on the Farrow No. 1 model where the mud would enter the mechanism of the sprocket sufficiently to hinder its operation? A. I have before pointed out that the latch in this Farrow No. 1 model is not precisely like that shown in the drawing. In this model the latch slides outwardly in a groove parallel to the axis of the shaft, and is thrown in by a fine spring. In this construction the entrance of ice or mud would make it inoperative. In the construction of the drawings, where this latch is pivoted and moved forward by a spring, the result would be the same. Neither of them could be depended upon for actual operation for an hour in muddy or freezing weather. Further, the moisture on finding its way between the axially sliding sprocket and the part which is carried by the hub, could enter the annular opening into the inside of the sprocket, and as soon as it accumulated there it would be impossible for the sprocket to slide axially towards
455 the driving wheel to connect the parts.

Q. From the descriptions you have given of the Farrow hub device, does it not appear that there were other devices described in the application 600,359, besides those which you state in your direct testimony were illustrated and described therein? A. I do not understand that the descriptions which I have given describe any Farrow devices other than those which I have referred to as illustrated in the different figures. This answers your question as I understand it.

Q. I call your attention to the language on marginal pages 144 and 145 of the record, and ask you if that does not describe a device which you have not stated was set forth in the Farrow application? A. I have referred to the features which are set forth in the part of the specification which you cite, where, in speaking of certain of the claims which include these features I have said that they are for specific details or constructions which are not to be found actually or substantially in Exhibit E 10.

Q. Then I understand that there is a device described in the Farrow application other than the one that was contained in the claims allowed by the Patent Office? A. There are certain features of construction which are set forth in the Farrow original application which are not set forth or specified in the claims allowed by the Patent Office.

456 Q. Do you find anything in the record to suggest to you the reason why they were not? A. From the record it appears that they were erased from the original specification because of the requirement of a division by the Patent Office.

Q. What, in your opinion, would have prevented this device, which is described on pages 144 and 145, from being included in another application? A. Judging from my own practice, I should say because it was found that it was not novel or patentable, as it is customary, when the Patent Office requires a division, to file an application for the part which is divided out, unless some reference

has been made that shows that it is not patentable, and that a new application would be useless.

Q. Does the record show that this division was required because of a lack of patentable features? A. Division is not required because of lack of patentable features on a part of either subject of the division, but because of two radically different subjects matter which cannot properly be included within one application, or because, if there is matter common to all the different constructions, the applicant is making specific claims for the different specific devices coming under the same generic construction. It might be, and probably was, the case that all of the devices described would come under the same generic principle of operation, just as Figs. 3 and 4 are included within that general feature which is based upon the action of the chain in controlling the operation of the parts.

It would appear that the patentee considered that all the
457 modifications were properly included under some general feature of operation. Why he acceded to the requirement of the office I cannot, of course, say.

Q. Was it not possible, when this division was required by the Patent Office, to have filed applications for the various different devices that were set forth in the original application which it was required should be divided? A. It was possible to do so if it was considered that they were patentable.

Q. In view of the record before you, do you regard that as a reasonable thing to have done?

Question objected to, and the question was withdrawn.

Q. Do you not find that the Farrow hub brake device and the device as shown in Exhibit E 10, contain a brake and coasting device in which the sprocket of the rear driving wheel is so mounted upon the rear hub as to drive the same in a forward direction, but having a loose engagement therewith, so that when the sprocket is held still the hub and the rear wheel will travel forward without pedaling, so that the bicycle will coast, and in which a brake member is adapted to be moved against the hub by a backward movement of the sprocket so as to produce a frictional contact on the rotating hub, and effect braking action, the coasting action being effected by the rider of the bicycle holding the pedals still, and the braking action being effected by back-pedaling, so as to carry back the rear sprocket-wheel, and move the brake from against the hub? A. I do not; but I would not like the court to con-
458 sider this answer without understanding what I mean by it. If I describe a device, stating that it consists of an arm pivoted above a disc and rotating upon its pivot, the disc being provided with a circular series of numbers or figures, or indices, it does not follow that everything that will come within the terms I have used is the same thing. The terms I have employed will describe a mariner's compass, the face of a clock, a card-counter, or a steam-gauge, and they all come properly within the same terms which I have just employed, but they are entirely different because operating upon

entirely different principles, and necessarily embodying entirely different constructions of devices. That would be the same in connection with the description which is contained in the preceding question. The general terms that are used could be employed to refer to things which had no similarity whatever in construction or operation or principle of operation.

Q. In your opinion, do a card-counter, a mariner's compass, or a steam-gauge, all accomplish anything like the same purpose? A. Yes, there is one general purpose common to all, and that is the movement of the arm over the numbered disc, indicating pressure, numbers, time, or some other factor which is to be taken into consideration.

Q. In your opinion, do a cardcounter and steam-gauge accomplish as near the same purpose as Exhibit E 10 and the Farrow hub brake device? A. No, not as near the same purpose.

459 Q. In your opinion, is there anything in the result obtained by the operation of the device which I have termed the Farrow hub brake device that would suggest a result obtained by the operation of Exhibit E 10? A. There is not, in my opinion. The results which are obtained by these two devices, as I have before pointed out, are, in my opinion, radically different.

Q. Do I understand that two men riding separate bicycles, one equipped with a Farrow hub brake and coaster device, and the other equipped with a device similar to E 10 each operating his device at or about the same time, would produce entirely and radically different results with their respective machines? A. In my opinion they would. Of course each one is propelling a bicycle. But I have before pointed out that under certain conditions these two devices would operate very differently indeed, so differently that one device could not be considered in any sense as mechanically the equivalent of the other.

Q. My question did not refer to the difference in operation, but to the result of the operation of the respective devices. A. I understood your question to refer to result, and that was just what I had in mind in giving my answer. The result in the case of Exhibit E 10 is to enable the rider at all times to have perfect control of his vehicle. The result in either Farrow structure is just the reverse.

Q. Do I understand from you that Exhibit E 10 more perfectly accomplishes the result desired to be obtained than the Far-

460 row brake? A. I wish to be understood as stating that Exhibit E 10 will accomplish results which neither of the Farrow structures could possibly accomplish. I have so fully given my reasons that I do not think it necessary to repeat them in answer to this question.

Q. Then, according to your opinion, the operation of the Farrow device would not in any way suggest to your mind the operation of Exhibit E 10. A. In my opinion it would not. They proceed on radically different lines.

Q. Suppose that you had never seen Exhibit E 10, and should see the operation of the Farrow braking device; if subsequently

you should see the operation of Exhibit E 10 would it in that event suggest to your mind any similarity of operation whatever? A. As a mechanic I would state that it would suggest exceedingly great dissimilarity. As a mechanic I would state that there is nothing whatever in the one device which to me is either substantially or directly similar to the other. They are radically different in construction effect and operation, and there are no two parts in them which are the equivalents of each other in any sense.

Q. The opinion you have just given is based upon your examination of the respective devices mentioned in the foregoing question, and from the point of view of a mechanic, is it not? A. Yes; and that was what I had in mind in giving my preceding answer.

461 Q. Then the answer you have given would *necessitate an* examination of the respective devices by you, as a mechanic, and the dissembling of the respective devices, would it not? A. Certainly.

Q. If, instead of examining these devices, and dissembling them for the purpose of making an examination from the point of view of a mechanic, you merely notice the operation of the devices, is there not a similarity of operation of the devices by the riders that would suggest itself to your mind? A. No expert and no mechanic would arrive at any conclusion as to the difference or resemblance of two devices merely because their operations, from casual inspection appeared to be similar. He would not come to any conclusion in his own mind without knowing not only what was done by the riders, but how it was done; and to ascertain what the actual operations of the riders would be he would have to know the construction of the parts, so as, for instance, to determine the effect of holding the pedals stationary. He could not know this from merely seeing the machines operated in his presence.

Q. If you should see two machines operated in your presence, one equipped with the Farrow device, and the other with Exhibit E 10, would it not be suggested to your mind that each rider operated a device that produced a comparatively similar result? A. No, because I have seen other combined brake and coasting devices which the riders operated by pedaling, as is usual in operating

462 bicycles, where the actual operations performed by the riders were very different from either of those which we have been considering. No mechanic, no expert, forms any conclusions upon such casual examinations.

Q. What would be the operation of the rider in carrying out the functions of a bicycle equipped with Exhibit E 10? A. All that could be described as to the operations of the rider would be that he either moves his pedals backward and forward, or rests them, as in all other coasting and brake bicycles.

Q. What would be the effect on the bicycle of the performance of the operations you have mentioned? A. The effect would be either to drive it, or to let it go by momentum, to retard it, or to arrest it.

Q. Will you describe the operation of a rider on a bicycle equipped with a Farrow hub brake, if he attempted to have the Farrow brake

device perform its functions? A. If the rider were going forward and desired to propel the machine he would apply the power to turn the pedal shaft in the direction of the hands of a clock. If he desired to coast he would bring the pedals to a stationary position, using, however, extreme care that in doing so he did not cause the projection *d'* to abut against the latch, because in such a case he might apply the brake, and it would be somewhat difficult to avoid this result in some instances. If he desired to apply the brake he would rotate the pedal shaft backwards part of a revolution, sufficient to bring the projection *d'* against the latch, and thereby tighten the band upon the hub. If he desired to actually
463 stop the rotation of the rear wheel—as, for instance, in moving down a slippery hill—he would exert a pressure sufficient to resist the tendency of the rotating hub to unwind the brake band and would hold the latter tightly in contact with the surface of the hub, and he would maintain this pressure so long as the rear wheel had to remain non-rotative.

Q. Do I understand from the foregoing comparisons that the results of the operations of the Farrow hub brake and coaster, performed as you have described, could all be accomplished by the operations of the device Exhibit E 10 but by superior means? A. The same operations would not be accomplished by the device of Exhibit E 10. For instance, the rider would not have to turn his pedal shaft back for perhaps half a revolution; it would be sufficient to arrest it and give it a slight backward movement, which under all conditions is the same. Again, in going down a steep, slippery hill, where it is necessary to hold the rear wheel non-rotative, the rider would not have to exert continued pressure to hold the braking parts in engagement, because there is no necessity for the rider to resist the forward rotation tending to unwind the brake. In Exhibit E 10 the brake cone is pushed into the brake cup, and any tendency of the brake cup, carried by the wheel, to rotate, would be resisted by the connection of the brake cone with the frame of the machine, and require no more pressure or exercise of force upon the part of the operator than would be sufficient to
464 bring all parts into engagement with each other in the first instance.

Q. Do I understand from what you have stated that coasting and braking, as known to the ordinary bicycle rider can be more perfectly, completely and easily effected through the use of Exhibit E–10 than by the Farrow hub brake and coaster? A. Bearing in mind what I have already stated, my reply is "Yes."

Q. What is meant by the term "braking friction?" A. This term is applied sometimes in different machines operating in different ways. I do not know what specific use you have in mind. Generally, it means friction applied in such a manner as to have a braking effect upon a rotating object, to reduce its rotation.

Q. Is braking friction the sole retarding power that both of the devices, which I have termed the Farrow and Exhibit E–10, depend upon for the result that is sought to be accomplished by the two

devices? A. In part it is; but, as I have before pointed out especially in connection with the Farrow device, Figs. 1, 2, and 5, something more than the mere braking friction of the parts is required, the full force of the operator being depended upon in some instances. In this connection I note that the Farrow description rather indicates that under these circumstances it is proposed to use, in addition, a hand brake; so that he specifies that his device "supplements the
465 action of the ordinary brake to a degree sufficient to almost instantly check the highest speed."

Q. Are both the devices which I have mentioned operated and controlled by the movement of the rider's feet on the pedals? A. Of course, in any bicycle, the movement of the rider's feet——

Mr. EARLE: I object to that as irresponsive. I am not talking about "any bicycle."

The AUDITOR: Let him finish his answer.

A. Of course, in any bicycle, the movement of the rider's feet is the primary source of power. So far as any other movements result from the movements of the rider's feet, they can be said to be controlled thereby.

Q. And what is true of the bicycles you mention is true of the devices I have mentioned, is it not? A. It is, to that extent.

Q. In both the Farrow device, known as the hub brake and coaster, and Exhibit E–10, is not the braking action effected by moving the chain backwards? A. I do not recognize that the Farrow device is one which is known as a hub brake and coaster, outside of the description, as we have considered it. As to the rest of your question, I will answer "yes," but with the qualification which I have before made, that similar terms may describe very dissimilar structures or operations.

Re-direct examination.

By Mr. WORTHINGTON:

Q. Referring to the general description given by Farrow
466 in his application in the following words concerning which inquiry was made of you on cross-examination—

"A device for permitting the instant cessation of the act of pedaling without removing the feet from the pedals, the bicycle continuing in the meantime without shock or jar to go on of its own momentum, and also of a brake that is operated by the pedals, whereby absolute control of the wheel is at all times maintained, the forward propulsion being resumed at will, or the wheel almost instantly braked to a full stop."

State whether or not that description (without reference to the particular devices afterwards described in the application) sets forth anything new in the art to which the thing described relates; and if your answer be in the negative, give your reasons for your answer?

Mr. EARLE: I object to that question, primarily, because there has been nothing here asked on cross-examination that relates to the question now asked. Of course my fundamental objection is to bringing in the prior state of the art.

Mr. WORTHINGTON: This objection having been made, I will state that we offer to show by this witness, in answer to this question that, to the personal knowledge of the witness, several devices answering fully and completely to the general description quoted in the question itself, had been patented in the United States and in Great Britain several years before the date of Farrow's application, some of such prior devices being those described in the letters patent offered in evidence on behalf of the defendant in connec-
467 tion with the testimony of the witness Arthur S. Browne, and then excluded by the auditor.

The AUDITOR (after argument): I held some time ago in reponse to an effort on the part of the defendant to introduce evidence as to the prior state of the art, at the time this application was made, that we were limited here by so much of the claims contained in Farrow's application as were allowed by the Patent Office, and practically by the opinion of the Court of Appeals. The cross-examination today has gone widely from that limit. If a good deal of the testimony called for by the questions on cross-examination had any object, it must be in the line of an effort to prove that Farrow was entitled, as against the defendant, to have considered all the claims, of every kind, in his original application, whether granted by the Patent Office or not. That would involve, in my opinion, all the limitations of the last clause of the contract, and a determination of the question whether those claims were for patentable inventions, and that the refusal of disallowance or failure to allow these claims by the Patent Office was not the fault or act of Farrow, but of counsel of the company, for which the company should be held responsible. If that be true, I must hold, as I have had occasion to say before, that we cannot determine the patentability of those claims without considering the prior state of the art, and I excluded evidence tending to show the prior state of the art on the ground that we were limited here to the claims allowed by the Patent Office.

If I should now open the gate by allowing this question, I
468 should feel somewhat justified by the course of the cross-examination today. But I shall adhere to my original ruling, and exclude from my consideration the evidence called for by the question, which is propounded by the defendant. I must also state here at the same time, that I shall not consider, in determining this case, any other claim contained in the application of Farrow except those not rejected by the Patent Office.

Mr. Worthington noted an exception to the ruling of the auditor.

Mr. WORTHINGTON: Now, Mr. Auditor, I fully understand the effect of this ruling, and I do not want to seem to disregard it. But I think it is necessary, in order to have my case properly on record, that I should ask one or two other questions, which are based upon

other parts of the cross-examination, and I shall simply ask them and submit them without argument.

Q. You have testified in your cross-examination that the mechanism described in Farrow's application, on pages 144 and 145 of the record, beginning "In Figs. 12 and 13 I illustrate a more perfect construction," was probably not patented because it was anticipated. Have you any—and if so, what—knowledge as to such anticipation?

The question was objected to, objection sustained by the auditor, and an exception noted by Mr. Worthington.

Q. You have referred on cross-examination to certain back-pedaling brake and coasting devices in bicycles other than those
469 of Farrow and the one exhibited in Exhibit E–10. What are they?

The question was objected to, objection sustained by the auditor, and an exception noted by Mr. Worthington.

Q. Do you find in the Farrow specification anything indicating that his invention covered any back pedaling brake and coaster devices in general, without reference to his description of particular devices?

Mr. EARLE: I object to that because it merely lays the foundation for another question, which would have the same effect as the previous questions.

The AUDITOR (after argument): I sustain the objection.

Mr. Worthington noted an exception.

Adjourned until 11 o'clock a. m. tomorrow, Wednesday, November 27, 1901.

470 MONDAY, *December 2d*, 1901—10 a. m.

Hearing pursuant to adjournment.

Present: Messrs. Earle and Gittings for the complainant, and Mr. Mackall for the defendant company.

Mr. Worthington being reported ill and detained at his residence, counsel for the defendant suggests that counsel for the complainant present their offer of what they desire to prove in rebuttal, and that the hearing be then adjourned subject to agreement of the parties upon notice. Mr. Earle files the following statement of proof intended to be offered by the defendant in re-buttal,—

"What we offer in proof is:—

1. That our expert does not agree with all the views expressed in the testimony of Messrs. Browne and Foster.

2. That the operation of the Farrow devices or any of them, considering the whole construction of such device or devices, is not fairly described in the testimony of Messrs. Browne & Foster.

3. That the particular differences in detail set forth in the testimony of Messrs. Browne and Foster are immaterial to the issue here presented.

4. That the structural differences in detail of the parts of the Farrow devices and the Exhibit E–10 do not prevent the device shown in Exhibit E–10 from being substantially like the Farrow devices as described in the application.

5. That the operation of the Farrow devices specifically illustrated in the figures of the drawings of the application as allowed, does not differ materially and substantially from that of the device shown in Exhibit E–10.

471 6. That the terms of the allowed claims describe a mechanical construction substantially like that of Exhibit E–10.

7. That the terms of the allowed claims describe a mechanical construction in which it is not necessary that the sprocket wheel shall move axially to effect a braking action.

8. That the devices described in the Farrow application on pages 144–145 of the record contain a construction in which the sprocket wheel does not move axially.

9. That the description of the construction set forth in the terms of the allowed claims applies to and describes the construction described on said pages 144–145 of the record.

10. That Mr. Foster did not correctly state the characteristic feature of the construction shown in Figs. 1, 2 and 5.

11. That Mr. Foster wrongly stated the normal position of the chain in construction shown in Figs. 1, 2 and 5.

12. That a construction in which — is not necessary that the sprocket wheel should be revolved backwardly a greater extent that the sprocket of Exhibit E–10 to apply the brake is contemplated by and embraced within the invention described in the Farrow application.

13. To contradict that portion of Messrs. Browne's and Foster's testimony which denies that the Farrow devices or some of them and the Exhibit E–10 have a certain common construction described in cross-examination questions.

14. That Mr. Foster was wrong in stating that the extension hub described in the allowed Farrow claims is a hub for the reception of a sprocket wheel capable of axial movement thereon.

472 15. That Exhibit E–10 has an extension hub.

16. That it is not necessary that the construction set forth in Figs. 1, 2 or 5 or described by the terms of the allowed claims should be exposed to dirt and moisture.

17. That Exhibit E–10 is not alone similar to the mechanical construction described by the claims stricken from the F——ap,,s, but is also similar in substantial particulars to the mechanical construction described by the claims allowed by the Pat. O."

The hearing is then adjourned.

473 WASHINGTON, D. C.,
FRIDAY, *January* 3, 1902—10 o'clock a. m.

The hearing of the case of Farrow *vs.* The Eclipse Bicycle Company was resumed before the auditor at the above date and hour.

Present on behalf of the complainant, Messrs. Earle & Gittings.

Present on behalf of the defendant, Mr. Worthington, Mr. Osgood and Mr. Mackall.

CHARLES E. FOSTER, a witness previously examined in this cause, reappeared for the purpose of correcting his testimony.

The WITNESS: I am here today of my own motion. The copy of the testimony which I gave was handed to me just as I was going north, and I read it over in the railway cars. I found quite a number of clerical errors in it, and on quite a number of points the language was so phrased as not to express the meaning I intended. I accordingly corrected it in pencil, and sent the copy to Mr. Worthington, with the suggestion that I would like to make those alterations; and it was suggested to me that that application should be made by myself to you. I do not think I have altered the substance of the testimony in any way in the corrections I have made. On another point, I would like to say that after reading the testimony it occurred to me that it was important that the court should
474 understand a little more clearly than I had expressed it my understanding of the meaning of the term "extension" as it was used in the Farrow specifications. I understand that that term applies to that abnormal increase in the length of the hub which permits the sprocket-wheel to be mounted upon it so as to slide axially, as in Figs. 1, 2 and 5, and that the term could not properly be applied to such a construction as is shown in Figs. 3 and 4, or to any other construction where the hub is of its normal length, and where the sprocket is mounted upon it in its usual position. It can only apply to the constructions of Figs. 1, 2 and 5.

The AUDITOR: Would counsel on the other side like to see Mr. Foster's corrections?

Mr. EARLE: Yes, sir; I would like to see them.

(Mr. Foster thereupon submitted a written statement of the corrections and additions which he desired to make to the record of his testimony.)

Mr. EARLE: We desire to object to the additions in lead pencil to the testimony on pages 111 and 121.

The first addition is to the following sentence, on page 111:

"In some cases there might be a full half-revolution of the front pedals before the brake action begins."

To which is added:

"Resulting in allowing several feet of travel."

Farther down on the same page, in the same answer, there is the following:

"It will be seen that the pins corresponding to *g* in the drawing which extend radially through the rear sprocket are for-
475 ward."

To which is added:

"In the position which the parts now occupy, as I have shown in the exhibit."

On page 121, there is this language:

"'The sprocket rim.' As I have before pointed out, this is the rim which has an axial motion upon the extension hub."

The addition is:

"And is not in Exhibit E–10."

After some discussion the witness and counsel for the complainant examined the record and corrections were made by consent.

The AUDITOR: What shall we do, now, with this offer of rebuttal testimony?

Mr. WORTHINGTON: I object to each and every item of it, on the ground of its generality, and because each item amounts to practically reopening the entire case. So far as anybody can tell from its generality, it is practically an offer to do what it was incumbent upon them to do, and what they did in a measure undertake to do, in their evidence in chief before the auditor.

(After extended argument by counsel on both sides:)

The AUDITOR: The objection to the offer, as a whole, is sustained, as being too general in its terms, and including and mainly consisting of offers to introduce proof which should properly have
476 been introduced in the case in chief, as being necessary and material to the establishment of the claim of the complainant that Exhibit E–10 is substantially covered by the description in the Farrow applications and the Morrow patent drawings. I do not mean by this to say that you shall not be allowed to offer what may be competent rebuttal proof. I will give you the opportunity to put your witness on the stand and propound questions to him; and I can then determine whether there is anything in the question calling for competent rebuttal proof.

Mr. EARLE: Your honor, do I understand that you allow us to ask this expert witness, in rebuttal, any questions that will relate directly to anything new that has been introduced by the witnesses on the other side which would be calculated to disprove our contention here that Exhibit E–10 does come within these applications in the sense set out in the decree?

The AUDITOR: I will not go any farther, at present, than I have gone. The evidence, to be competent, must be evidence that you would be excusable for not putting in in chief.

Mr. EARLE: That is the point. We could not foresee what their witnesses were going to say, however.

The AUDITOR: It is quite difficult, in these patent cases, to determine just where a new detail may spring up but whatever was necessary or material to prove similarity was part of your case in chief. That was the issue made by you.

477 Mr. EARLE: If your honor will permit me just a minute, I want to understand your view——

The AUDITOR: Well, Mr. Earle, I cannot go into detail any fur-

ther until you put your witness on the stand, and propound your questions.

Mr. EARLE: Very well, sir.

(At this point a recess was taken until 1 o'clock, p. m.)

After recess.

HENRY P. DOOLITTLE, a witness heretofore examined in this cause on behalf of the complainant, was recalled for testimony in rebuttal.

By Mr. EARLE:

Q. Please state whether you have read the testimony of Messrs. Browne and Foster, and whether or not you find that any new matter has been introduced by them relating to the similarity of Exhibit E–10 and the so-called Farrow devices?

Mr. WORTHINGTON: I object to that question on the ground that it is asking the witness to decide the question whether his testimony is properly rebuttal or not; that the question whether there is any new matter or not is one to be decided by the court and not by the witness, and he cannot be allowed to express his opinion
478 on that subject.

(After argument the objection was sustained, and counsel for the complainant noted an exception.)

By Mr. EARLE:

Q. Mr. Browne has testified that he found two constructions described and illustrated in Exhibits W. M. F. 3 and W. M. F. 4. I now ask if you find other constructions set forth in the original applications, and if so, what?

Mr. WORTHINGTON: I object to that as manifestly not proper in rebuttal, and involving precisely the question upon which the complainant was heard in his case in chief before the auditor. If I understand the question, it sets out that we have shown, by the opinion of our witnesses, that certain things which are in Exhibit E–10 are not in the application of Farrow. Now it is proposed to ask this witness whether he does not find some other things in the application of Farrow.

(After discussion, the objection was sustained, and counsel for the complainant noted an exception.)

By Mr. EARLE:

Q. Mr. Browne has stated that he finds no suggestion in the specifications that the coasting mechanism shown in Figs. 3 and 4 could be used with the brake mechanism shown in Figs. 1, 2 and 5. Please state whether you find any such suggestion.

Mr. WORTHINGTON: I object to that on precisely the same ground, and the further ground that the matter has now already been ruled upon twice by the auditor since the witness was recalled. This

question either is designed to bring out something that was included in Exhibit E–10 or it is not.

479 If it is, it was plainly part of their case in chief. If it is not, then it has nothing to do with the case. Either way it is not competent rebuttal testimony.

The AUDITOR (after argument): This question asks the witness's opinion as to the meaning of these drawings, or as to the meaning of the Farrow specifications; does it not?

480 Mr. EARLE: To some extent, sir. It directly relates to the similarity of Exhibit E–10 to this mechanism which is described. He says he finds no suggestion that the coasting mechanism could be used with a brake mechanism.

Mr. WORTHINGTON: That is, there is something in there which is in Exhibit E–10 which Mr. Browne did not see? Is that the point?

Mr. EARLE: He said he found no suggestion in the specifications——

Mr. WORTHINGTON: I understood you to say just now that there was something there which you found in Exhibit E–10, or which your expert found there, which Mr. Browne did not find.

Mr. EARLE: He said there was no suggestion of it, and there is a suggestion of it that does show the similarity between the two devices—a very strong suggestion of it.

The AUDITOR: Suppose you put a witness on the stand to show that there is a suggestion, in his opinion. What is to prevent their calling witnesses to show that there is not any such suggestion? Incidentally, in answer to your question on cross-examination, not about anything which had been brought out in chief, he says he does not find the suggestion that your question described in the Farrow specification. Then he goes on to state other reasons why the combination would not be useful.

Mr. WORTHINGTON: That could come within another ruling—that he asked on cross-examination a question which was not proper cross-examination, and he has made him his own witness in that respect.

Mr. EARLE: That seems to us, your honor, to be entirely
481 new matter.

The AUDITOR: It was something which you brought out, not they. The objection will have to be sustained.

Mr. EARLE: We note an exception.

By Mr. EARLE:

Q. Referring to the construction shown in Figs. 3 and 4 of the application as allowed, Messrs. Browne and Foster have stated that the operation of this device in Figs. 3 and 4 is entirely different from that of Exhibit E–10. State whether or not they have correctly described the construction and operation, taken with the operating parts to which it is connected, of this device.

Mr. WORTHINGTON: It is hardly necessary to say, Mr. Auditor, that we object to that question on the grounds which I should think have been sufficiently covered by the auditor's rulings.

The AUDITOR: It is asking of the witness the general question which I thought might be asked if I allowed that offer. * * * The form of the question is decidedly objectionable, especially on rebuttal proof. It puts the statements of Messrs. Browne and Foster in a general way. After stating that they do not find something, without any detail at all about it, you ask him if they have correctly described it. It is asking for what would be purely an opinion on the part of the witness. The objection is sustained.

Mr. EARLE: We note an exception to the ruling.

By Mr. EARLE:

Q. Messrs. Browne and Foster have stated that it is neces-
482 sary, by constructions made substantially according to the Farrow application, that the sprocket-wheel may sometimes have to be moved around nearly a whole revolution before the brake could be applied. State whether or not this is correct, and give your reasons therefor.

Mr. WORTHINGTON: I object to that for precisely the same reason.

The AUDITOR (after argument): The objection will be sustained.

Mr. EARLE: We note an exception.

By Mr. EARLE:

Q. It is necessary, according to the construction set forth in Figs. 1, 2 and 5, as described by the terms of the allowed claims of Farrow, that the mechanism should be exposed to dirt and moisture?

Mr. WORTHINGTON: We do not consider that question in
483 the slightest degree material; but we will not object to it. I suppose the answer will be confined to the question whether it is necessary to have the mechanism covered or not.

A. It is not necessary.

By Mr. EARLE:

Q. Why not?

Mr. WORTHINGTON: I object to any statement of the reasons, your honor.

Mr. EARLE: I think we have a right to the reasons, your honor. It might be inferred from the way the testimony now stands that it is because the rider held an umbrella over him.

The AUDITOR (after discussion): I am inclined to think the witness may give the reasons why it is not necessary. There can be a motion to strike out afterwards if the answer is deemed incompetent.

(The question was read by the stenographer.)

A. It is not necessary because in regard to the construction illustrated in Figs. 1, 2 and 5, there is described in the specification (see marginal page 143) a construction consisting of an annular recess in the rim, lettered *P*, into which is adapted to enter an annular

lip or flange P', on the hub, which overlaps the screw-clutch formed on the rim and hub, and serves to protect those parts against the entrance of dirt or moisture, either when the rim is locked firmly against the hub, as it is when in forward driving, or when the rim is unscrewed from the hub and moved slightly laterally thereon in order to effect the coasting action. Moreover, in respect to
484 the latch e, which is shown on the fork of the frame of the bicycle, and is adapted to engage the brake-band of the rim when the latter is rotated backwardly to apply the brake, this feature has no construction that would prevent a cap or cover being applied to the frame to protect such latch and the projection from the band that is adapted to engage therewith.

By Mr. EARLE:

Q. Does not Exhibit E–10 have an extension hub?

Mr. WORTHINGTON: I object to that. As I read your honor a few moments ago, in all these claims which they were to show substantially the same as Exhibit E–10, the first thing was the extension hub. If there was anything they were to show in chief, it was that Exhibit E–10 had an extension hub.

The AUDITOR (after argument): Was not this part of your case in chief?

Mr. EARLE: Why, your honor, we could not reasonably foresee that an expert witness was going to get up here and say, "There is something written down in these books that does not exist, and does not"——

The AUDITOR: If they say it is written there and it is not so, it is very easy to show it without testimony.

Mr. EARLE: I admit that that is a proper subject of argument, your honor; but it seems to me that in matters as technical as this, the reason why expert witnesses are called is merely to throw more light on the subject, which I think we ought to have a right to do.

The AUDITOR: You forget you are asking him that as to a substantial point of similarity or otherwise.

485 Mr. EARLE: Exactly, sir; I am asking it to overcome an alleged point of dissimilarity.

The AUDITOR: I beg your pardon. It was your place, in the outset of your evidence, to show the similarities; and you had asserted this as one of them. I do not know whether your witnesses proved it or not; but you have asked them to describe all the similarities between Exhibit E–10 and these applications and the Morrow patent—both Mr. McGill and Mr. Doolittle. If they omitted anything, you should have called their attention to it at that time, it seems to me.

The objection is sustained.

(Counsel for the complainant noted an exception to the ruling.)

By Mr. EARLE:

Q. Is the extension hub described in the allowed Farrow claims

a hub for the reception of a sprocket-wheel capable of axial movement thereon?

Mr. WORTHINGTON: That is manifestly the same thing. I object to it.

Mr. EARLE: Now, your honor, this is something entirely new. These expert witnesses have given entirely different and new reasons for the existence of a part of this mechanism. Certainly we could not have foreseen, on direct-examination, that anyone was going to attribute to something an action which did not belong to it, mechanically. I think we have a right to throw some light on that point in rebuttal. There is an entirely new view of the situation, which was brought up to try to prove dissimilarity.

The AUDITOR: To what part of the defendant's testimony does this question apply?

486 Mr. EARLE: It applies to the statements made by both their expert witnesses, giving an entirely different construction than is shown——

The AUDITOR: I do not mean in general terms; will you refer me to their statements on this point?

Mr. EARLE: Yes, sir; I think I can.

(While counsel for the complainant were examining the record of testimony before the auditor in this cause, the following occurred:)

The AUDITOR: I do not think, Mr. Earle, that you will find that either of the witnesses for the defence have undertaken, in that express language, to construe, enlarge or read into these specifications anything but what appears here. They have applied the descriptions in the specifications and the drawings to Exhibit E–10, and undertaken to show the differences; and in speaking of the operation, they may have necessarily given their own interpretation of the description in the specifications.

Mr. EARLE (reading from page 115): "I find that the extension hub in the specification is a hub having such an extension that the rear sprocket-wheel can slide axially thereon; and I do not find, in Exhibit E–10, any hub having an extension upon which the rear sprocket can slide axially."

Mr. WORTHINGTON: I do not see how anything could be more objectionable than that, Mr. Auditor. They were to show that the description in the specification here was substantially that of Exhibit E–10. The claims of that specification speak, in the first place, always of the extension hub. Now, if there was any-

487 thing that it was incumbent upon them to show, it was that the extension hub and its functions were the same as the hub and its functions in Exhibit E–10. We called our experts, just as we did on all these other points that have been ruled upon here, to show what we thought were differences. I do not see how this can be competent if anything else that has been ruled out was incompetent.

In addition to that, Mr. Foster, from whose testimony this extract is taken, did not do anything more than simply to quote (not liter-

ally, but simply paraphrase) the language of the specification itself.

(After further argument, and reading of the testimony of Mr. Foster:)

The AUDITOR: This is Mr. Foster's language:

"Now, I find that the extension hub in the specification is a hub having such an extension that the rear sprocket-wheel can slide axially thereon."

That, of course, is different phraseology from the language contained in the specification; but it may mean the same thing. That is just my trouble. * * *

This question is a little different from the others, Mr. Worthington. It is based upon the assumption, not that Mr. Foster has quoted something which was in the case before, or in the specifications, but that Mr. Foster has put something in the specifications, in his construction of them, which they assert is not there. And, indeed, it looks to me very much like new matter. Whether Mr. Doolittle's opinion is sound or not, whatever opinion he may have to express, is another matter. What I mean to say is that I doubt whether I can now look at the specifications and say that
488 they do contain such-and-such a thing, and therefore exclude this question.

The objection, then, is overruled, and the question allowed to be answered by the auditor, upon reference to the testimony of a witness for the defence found on page 115 of the record of testimony, in which it is stated that the witness finds that the extension hub in the specification is a hub having such an extension that the rear sprocket-wheel can slide axially thereon.

Mr. WORTHINGTON: We would like to reserve an exception.

(The pending question was read to the witness by the stenographer.)

A. I do not find that the extension hub described in the terms of the allowed claims, which claims also refer back to the specification, is a hub having such an extension that the rear sprocket-wheel can slide axially thereon. That is, the extension hub is not provided solely for the purpose of co-operating with a sprocket-wheel that has an axial movement. It is provided for the purpose of enabling a sprocket-wheel and hub provided with mechanism to be mounted on the hub, by which the sprocket-wheel may be held still for the purpose of coasting, and by which it may be moved for the purpose of applying a brake.

Mr. WORTHINGTON: I object to all this, and move to strike it out, as not responsive to the question, and also as not being within the ruling of the auditor, and as being part of the case in chief. This is an evident attempt on the part of the witness, I submit, to bring in matters here which have been excluded, and which have nothing to do with the question which has been asked, which is
489 simply (as I understand the ruling of the auditor) whether he finds in the specifications a description of a mechanism

which will allow the Farrow device to operate without sliding on the hub.

The AUDITOR: So far as the ruling went, that is correct.

Mr. WORTHINGTON: Now, so far as he has gone, he has simply been stating what he has already stated substantially at least twice in this case, and which was clearly part of the case in chief.

The AUDITOR: I do not think the question, as allowed, called for what he did find in the specification. The question was whether such an extension could be found in that specification.

Mr. EARLE: Of course, your honor, we want some explanation; otherwise it would be perfectly useless to give this evidence to you or to any other court.

The AUDITOR: What explanation—what it did contain?

Mr. EARLE: I would like to say why it is——

The AUDITOR: But it is negative, Mr. Earle. * * * Your question was simply whether he found such an extension in the specification; and he answered that he did not, in the way he answered it. There the competency of the answer ended. So far as this is new matter, I will allow you to introduce proof regarding it; but to attempt to prove by this witness that the extension hub in the specifications was not the hub extension described by the witness, or at least that he did not find such an extension in the specifications, is another thing. It is a negative claim.

(Counsel for the complainant noted an exception to the ruling.)

490 By Mr. EARLE:

Q. Could a chainless gearing be used with any of the Farrow forms of brake and coaster, as allowed?

Mr. WORTHINGTON: The objection is repeated.

(The testimony given in reply to this question is objected to by counsel for the defendant; and the objection being sustained by the auditor, the said testimony, by stipulation of counsel, is physically stricken from the record.)

Cross-examination.

By Mr. WORTHINGTON:

Q. Mr. Doolittle, have you any business relations with counsel for the complainant in this case, Mr. Earle? A. I have had business relations with him in regard to other cases.

Q. Do you not have the same offices that he has, here and
491 in New York? A. No; we have not the same offices.

Q. Have you had the same offices? A. No.

Q. Did you not write him a note today on paper which has both his name and yours on the heading? A. I did not write him today——

Q. You did not send him a note today? A. Oh, yes; I sent him a note down here at the auditor's office. I had forgotten about it.

Q. Was not that note written on paper which had both your name and his printed on the heading? A. Not my name.

Q. Is it your father's? A. My father's name; yes.
Q. Your name is not on it, is it? A. No, sir.
Q. What is your father's name? A. W. H. Doolittle.
Q. And yours is W. G. Doolittle? A. No; H. P. Doolittle.
Q. Who is W. G. Doolittle? A. My brother.
Q. Are you in business with them? A. Yes; I am in business with them to a certain extent, and also on my own behalf.
Q. To what extent are you in business with them? A. I do work for that firm.
Q. You have offices where they have? A. Yes, sir.
492 Q. Do you have anything to do with the office in New York, at 46 Cedar street? A. No; nothing personally.
Q. You qualify that answer by the word "personally." What do you mean; what connection do you have with it? A. I sometimes attend to patent cases which Mr. Earle sends on to me.
Q. Mr. Doolittle, have you any interest in the result of this case? A. I have no interest other than in desiring its successful outcome. I have no arrangement as to procuring an interest, any financial interest.
Q. What I want to get at, plainly, is whether or not you have a contingent fee? A. No; I have no such arrangement. I have no arrangement as to compensation.
Q. Have your father or brother? A. No; no, sir.
Q. Have you any understanding in reference to your compensation which has not been put in the form of a formal contract? A. No, it has not; no, sir.
Q. Have you had any arrangement or understanding about your compensation in the matter at all? A. I understood that I was to be compensated by Mr. Earle.
Q. When? A. That has not been agreed upon.
Q. Was the amount of that compensation fixed in any way?
493 A. No; it was not fixed.
Q. Well, what talk have you had about it? I want to understand what is your situation in this case in reference to your fee. A. We have had no understanding whatever. Mr. Earle simply approached me in regard to the matter, and asked me to become employed by him in this case as an expert; and we had previously had some patent cases together in which we had shared the fees. In this case there was no arrangement made as to sharing the fees, or as to sharing any amount to be derived from the result of the suit; and there has been no such arrangement whatever in regard to the compensation. It has just been generally understood that Mr. Earle is to compensate me according to the value of my services when the suit is completed.

Mr. WORTHINGTON: When the suit is completed? That is all.

The testimony in rebuttal was thereupon announced closed.
The further hearing of this cause was thereupon adjourned until Saturday, January 4th, 1902, at 1 o'clock p. m.

494 2-389.

UNITED STATES OF AMERICA,

[Vignette.]

DEPARTMENT OF THE INTERIOR, PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of the letters patent of Henry F. Hiller, number 422,781, granted March 4, 1890, for improvement in bicycles.

Seal Patent Office, United States of America.

In testimony whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the city of Washington this 23d day of June, in the year of our Lord one thousand nine hundred and three and of the Independence of the United States of America the one hundred and twenty-seventh.

F. I. ALLEN,
Commissioner of Patents.

494a 2-165.

No. 422,781.

[Vignette.]

The United States of America to all to whom these presents shall come:

Whereas, Henry F. Hiller, of New Bedford, Massachusetts, has presented to the Commissioner of Patents a petition praying for the grant of letters patent for an alleged new and useful improvement in bicycles, a description of which invention is contained in the specification of which a copy is hereunto annexed and made a part hereof, and has complied with the various requirements of law in such cases made and provided; and

Whereas upon due examination made the said claimant is adjudged to be justly entitled to a patent under the law.

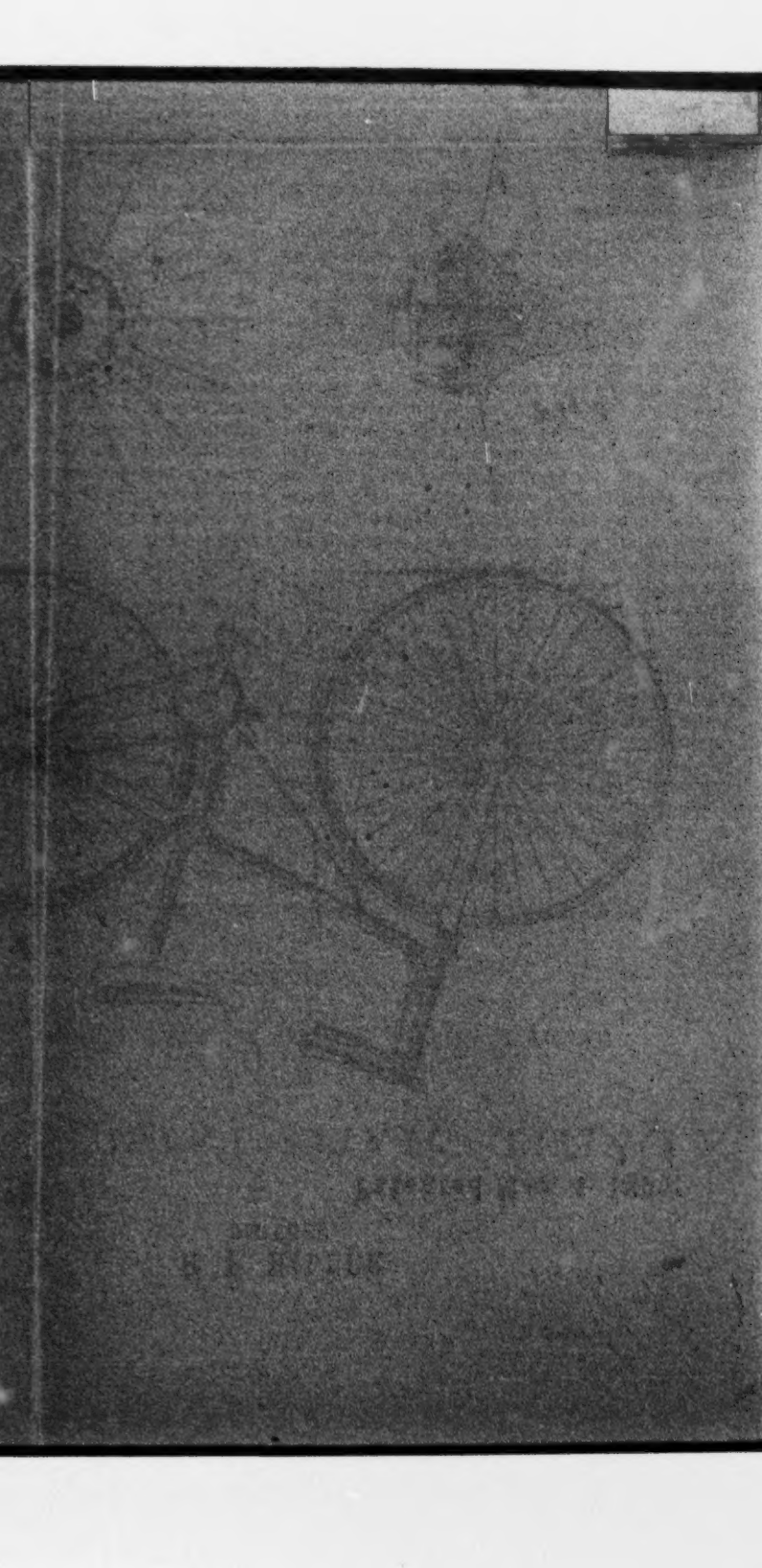
Now therefore these letters patent are to grant unto the said Henry F. Hiller, his heirs or assigns for the term of seventeen years from the fourth day of March, one thousand eight hundred and ninety, the exclusive right to make, use and vend the said invention throughout the United States and the territories thereof.

Seal Patent Office, United States of America.

In testimony whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the city of Washington this fourth day of March, in the year of our Lord one thousand eight hundred and ninety, and of the Independence of the United States of America the one hundred and fourteenth.

CYRUS BUSSEY,
Assistant Secretary of the Interior.

Countersigned:
C. E. MITCHELL,
Commissioner of Patents.



(No Model.)

H. F. HILLER.

BICYCLE.

No. 422,781. Patented Mar. 4, 1890.

Fig. 1.



Fig. 3.

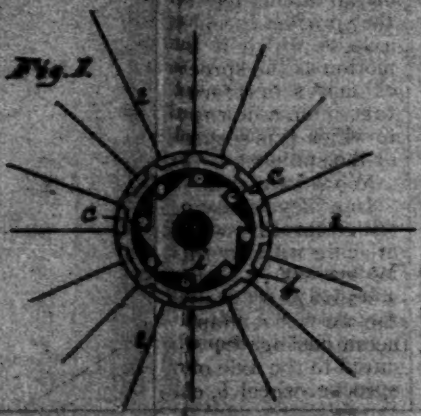
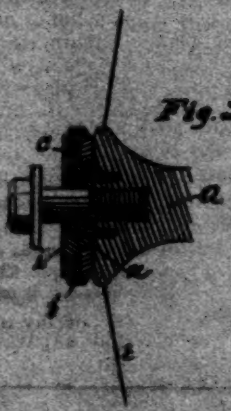


Fig. 2.



Witnesses
Fred. A. Howson
C. O. Howson

Inventor
Henry F. Hiller
by F. W. Wadsworth atty

UNITED STATES PATENT OFFICE.

HENRY F. HILLER, OF NEW BEDFORD, MASSACHUSETTS.

BICYCLE.

SPECIFICATION forming part of Letters Patent No. [illegible], dated [illegible].

Application filed May 13, 1889. Serial No. 311,[illegible]. (No model.)

To all whom it may concern:

Be it known that I, HENRY F. HILLER, a citizen of the United States, residing at New Bedford, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Bicycles, of which the following is a specification.

My invention relates to improvements in that class of bicycles which are propelled by means of a sprocket attached to the axle of the rear wheel and connected by a sprocket-chain with a sprocket revolved by means of pedals operated by the feet.

The object of my invention is to enable the bicycle to advance in the direction of its forward movement by momentum or on a downgrade while the pedals remain stationary or at rest; and my invention consists in the peculiar construction and arrangement of the sprocket on the rear wheel of the bicycle, and of the ratchet, by means of which the desired object is attained.

In the accompanying drawings, Figure 1 is an end view of the ratchet, showing its arrangement and operation within the sprocket. Fig. 2 is a view of the ratchet, axle, and sprocket in longitudinal section through its center; and Fig. 3 is a view of my improved bicycle complete.

Similar letters refer to similar parts throughout the several views.

a represents the axle of the rear wheel of the bicycle, which has its bearing in the frame of the machine in the usual manner. To this axle is rigidly secured the ratchet-wheel *i*, having shoulder *n*.

b represents a sprocket-wheel which has its bearing on the shoulder *n* and is chambered out to receive the thickness of the ratchet-wheel. The flange of the sprocket-wheel *b* is [illegible] of the wheel.

c c represent [illegible] fit somewhat [illegible] in the edge of [illegible] face of the [illegible]

e e represent [illegible]

The operation [illegible] follows: When [illegible] *b* by means of [illegible] wheel, and [illegible] cle in a forward [illegible] come wedged between [illegible] of the ratchet-[illegible] the sprocket *b* [illegible] axle to which it [illegible] motion as the sprocket; but when the cle moves in a [illegible] direction by momentum or on a down[illegible] the ratchet and to which it is [illegible] of the sprocket *b*.

What I claim is—

In a bicycle having the rear axle provided with a sprocket-wheel connected by a sprocket-chain with another sprocket-wheel having its bearing in the frame of the bicycle and adapted to be propelled by means of pedals, the ratchet *i*, adapted to receive the rollers *c* and having the shoulder *n* and rigidly secured to the axle of the rear wheel, and the sprocket-wheel *b*, [illegible] the shoulder *n* and [illegible] the ratchet *i* and the [illegible] the wheel, all as shown and described.

HENRY F. HILLER.

Witnesses:
HENRY W. [illegible],
FRED A. MASON.

495 2–389.

UNITED STATES OF AMERICA,

[Vignette.]

DEPARTMENT OF THE INTERIOR, PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of the letters patent of William A. Courtland, number 520,728, granted May 29, 1894, for improvement in bicycles.

Seal Patent Office, United States of America.

In testimony whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the city of Washington this 23d day of June, in the year of our Lord one thousand nine hundred and three and of the Independence of the United States of America the one hundred and twenty-seventh.

F. I. ALLEN,
Commissioner of Patents.

495a 2–155.

No. 520,728.

[Vignette.]

The United States of America to all to whom these presents shall come:

Whereas, William A. Courtland, of New York, N. Y., has presented to the Commissioner of Patents a petition praying for the grant of letters patent for an alleged new and useful improvement in bicycles, a description of which invention is contained in the specification of which a copy is hereunto annexed and made a part hereof, and has complied with the various requirements of law in such cases made and provided; and

Whereas upon due examination made the said claimant is adjudged to be justly entitled to a patent under the law.

Now therefore these letters patent are to grant unto the said William A. Courtland, his heirs or assigns for the term of seventeen years from the twenty-ninth day of May, one thousand eight hundred and ninety-four, the exclusive right to make, use and vend the said invention throughout the United States and the territories thereof.

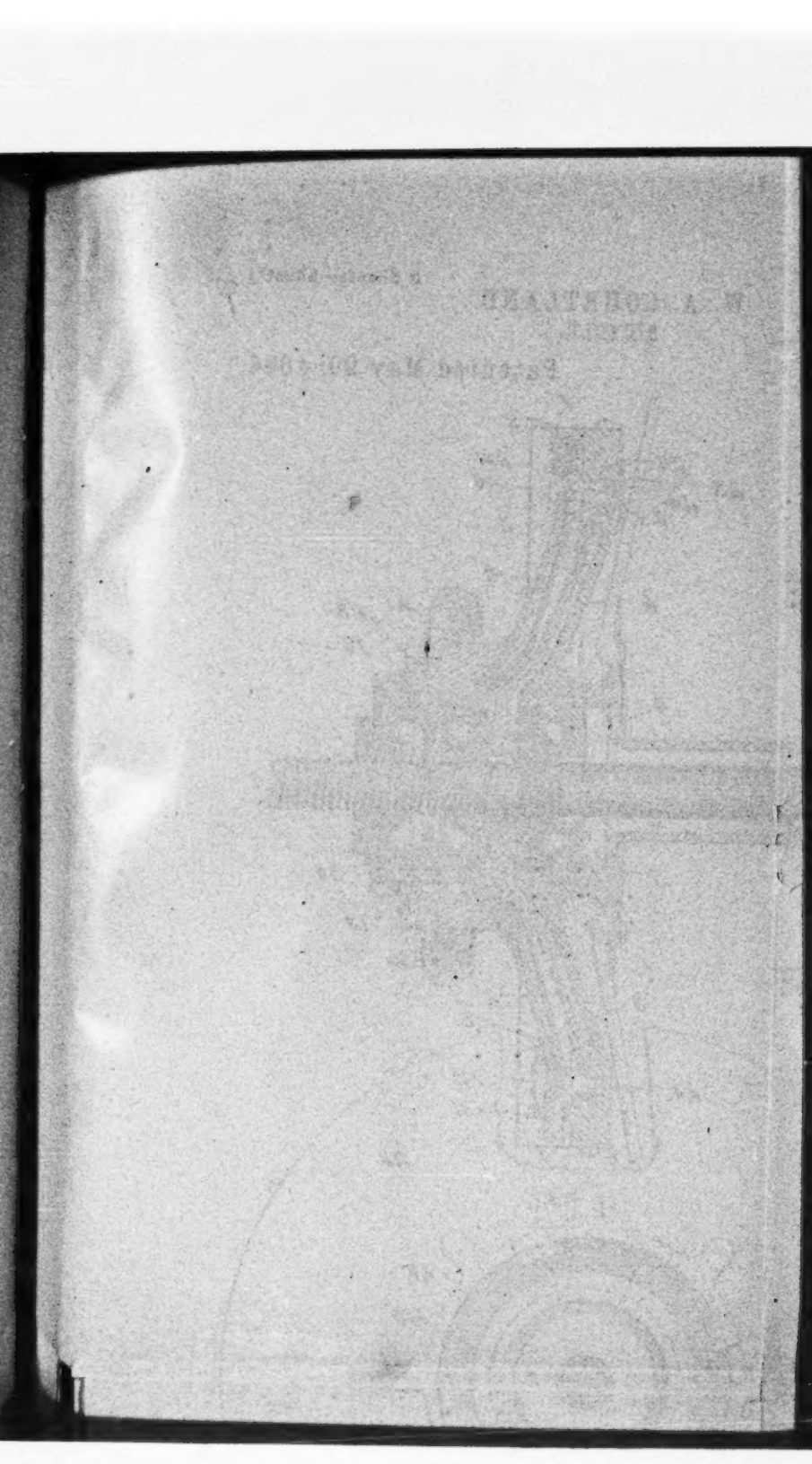
Seal Patent Office, United States of America.

In testimony whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the city of Washington this twenty-ninth day of May, in the year of our Lord one thousand eight hundred and ninety-four, and of the Independence of the United States of America the one hundred and eighteenth.

JNO. M. REYNOLDS,
Assistant Secretary of the Interior.

Countersigned:

JOHN S. SEYMOUR,
Commissioner of Patents.



(No Model.) 5 Sheets—Sheet 1.

W. A. COURTLAND.

BICYCLE.

No. 520,728. Patented May 29, 1894.

Fig. I.

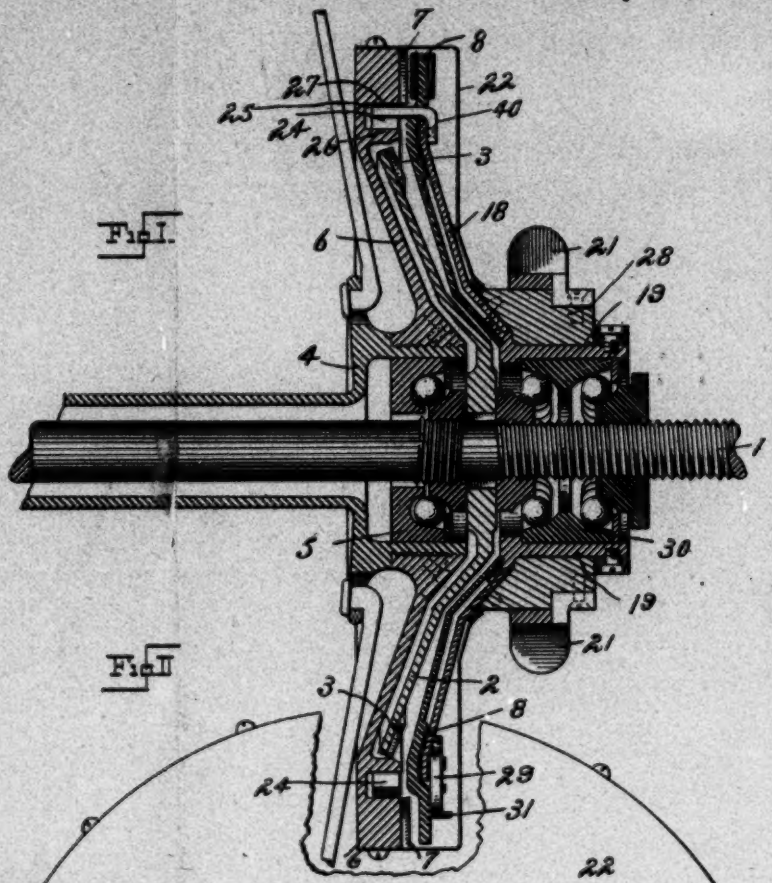
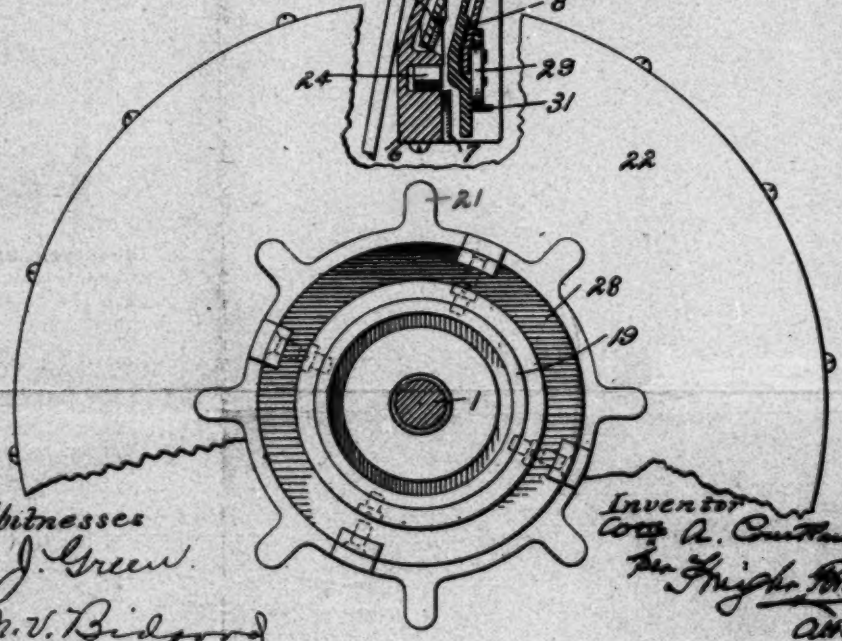


Fig. II



Witnesses:
J. Green.
Ln. V. Bridgwood

Inventor
Wm. A. Courtland
per Knight Bros
Attys

(No Model.) 5 Sheets—Sheet 2.

W. A. COURTLAND.

BICYCLE.

No. 520,728. Patented May 29, 1894.

Fig. III.

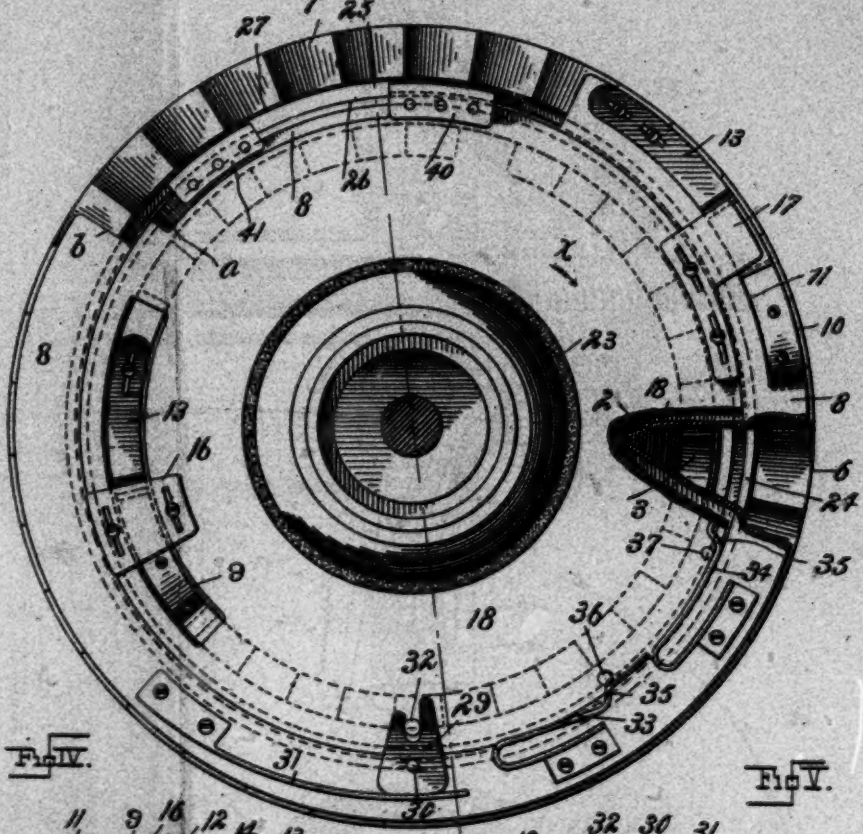


Fig. IV.

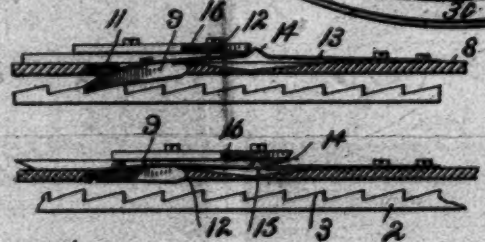


Fig. V.



Fig. IV. a

Witnesses
J. Green.
M. V. Bidgood

Inventor
Wm. A. Courtland
per Knight Bros
Atty's

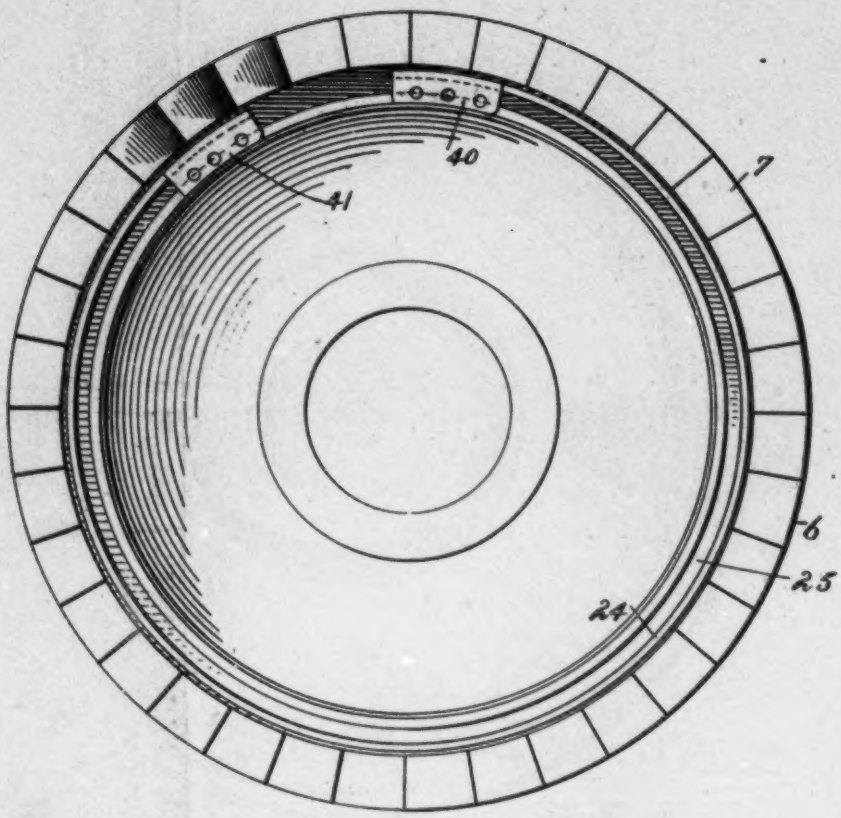
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W. A. COURTLAND.

BICYCLE.

No. 520,728. Patented May 29, 1894.

Fig. VI.



Witnesses
J. Green
M. V. Bidgood

Inventor
Wm. A. Courtland
per Knight Bros
Attys

328

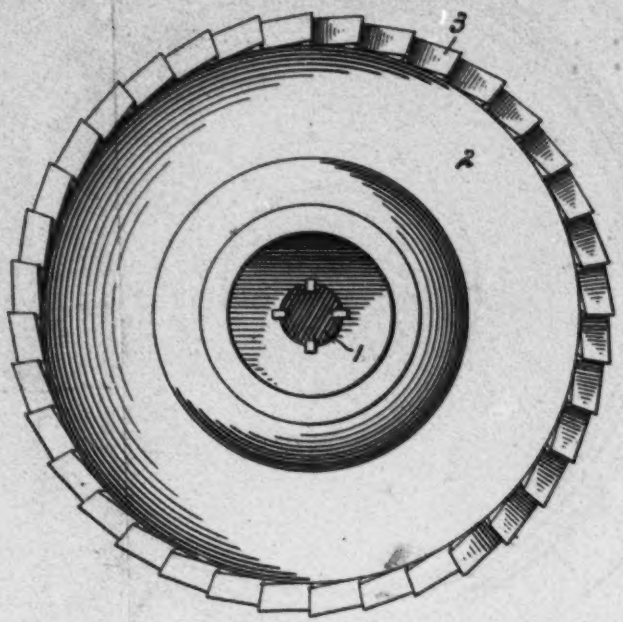
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W. A. COURTLAND.

BICYCLE.

No. 520,728. Patented May 29, 1894.

Fig. VII.



Witnesses
J. Green
H. V. Bedgwood

Inventor
Wm. A. Courtland
per J. Knight & Son
attys

(No Model.) 5 Sheets—Sheet 5.

W. A. COURTLAND.

BICYCLE.

No. 520,728. Patented May 29, 1894.

Fig. VIII.

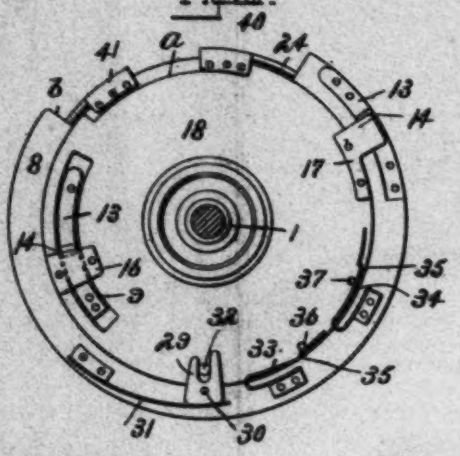


Fig. IX.

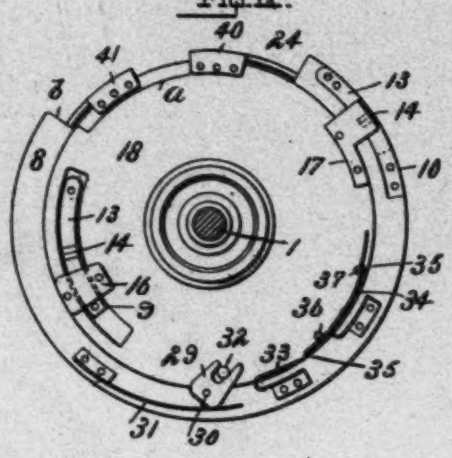


Fig. X.

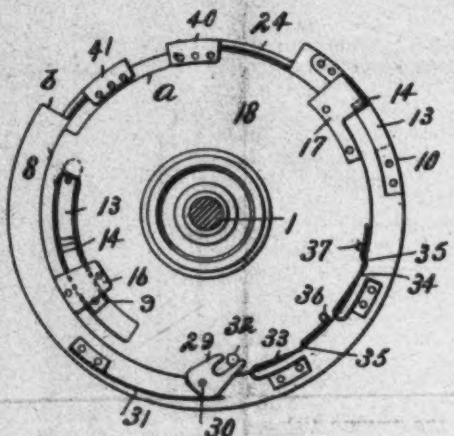
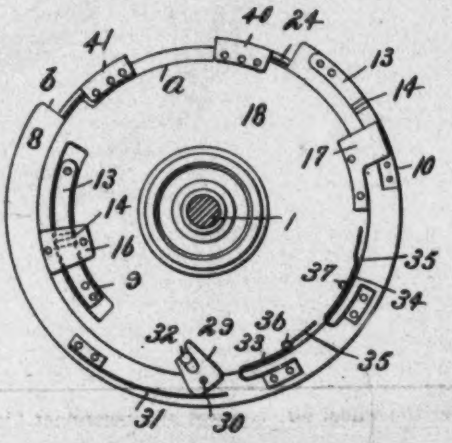


Fig. XI.



Witnesses
J. Green.
M. V. Bidgood

Inventor
Wm. A. Courtland
per Knight Bros.
attys

UNITED STATES PATENT OFFICE.

WILLIAM A. COURTLAND, OF NEW YORK, N. Y.

BICYCLE.

SPECIFICATION forming part of Letters Patent No. 520,726, dated May 29, 1894.

Application filed March 13, 1894. Serial No. 503,280. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. COURTLAND, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Bicycles, of which the following is a specification.

My invention relates to the driving and controlling mechanism of cycles of all descriptions, though I have in the main, had in view its application to bicycles, and specifically to what is known as the "Safety." Such machines are operated by treadles and cranks which communicate motion to the rear wheel by chain and sprocket wheels. In coasting on such machines, it is necessary to raise the feet from the treadles. The wheels are now generally made with pneumatic tires so that an ordinary brake, even if one be applied to the tire, is destructive and even dangerous in operation. Band brakes acting on the wheel hub and controlled by hand have been found inefficient and peripheral brakes are not only, as above pointed out, destructive of the tire, but involve, on "safeties" so complicated an array of levers and rods as to be very objectionable. The unsatisfactoriness of the braking devices and the surrender of control of the wheel therefore involved in the removal of the feet from the treadles, have produced a general condemnation of the practice of coasting which would be without foundation if the bicycle remained perfectly in the control of the rider at such times.

The object of my invention is to enable the control of the machine entirely by the feet which remain constantly on the treadles whether pedaling or coasting and not only propel the wheel but connect or disconnect the treadles from the wheel and apply or release the brake.

Referring to the accompanying drawings which form a part of this specification:—Figure I is a vertical sectional view, on the line I—I, Fig. III, of a portion of a bicycle wheel embodying my invention. Fig. II is a face view of the same parts, part broken away. Fig. III is a similar view with the sprocket wheel, its anti-friction bearings and the protecting casing removed. Figs. IV and IV^{A} are sectional detail views illustrating the operation of the dogs. Fig. V is a similar view of the centering lever. Fig. VI is a face view of the clutch disk. Fig. VII is a similar view of the stationary ratchet disk. Figs. VIII, IX, X and XI are face views of the operating disks and show their several defined positions.

1 is the axle of the driving wheel—usually the rear wheel—of a bicycle. It is, as usual, fastened rigidly to the frame (not shown) and it has, keyed to it and therefore held rigidly from revolution, a disk, 2. This disk 2, has on its outer face, near its periphery, an annular rack 3, whose teeth present their abrupt faces in direction to arrest a dog traveling in the direction of backward rotation of the wheel.

One end of the wheel hub is shown at 4 and its customary ball-bearing at 5. To the hub 4 is fixed the clutch-disk, 6, which has on its outer face near the periphery, an annular rack 7, whose teeth have their abrupt faces presented oppositely to those on disk 2; and this clutch disk has an annular recess 25, in which the clutch operates. Of the operating disks, 8 is the dog-carrying disk having two dogs 9 and 10 engaging respectively the two racks 3 and 7. The method of mounting these dogs is shown in Figs. IV and IV^{A}. For each dog the dog-carrying disk 8, has an aperture 11, rounded at one end to form a seat 12, for the rounded butt of the dog. A plate spring 13, bolted to the dog-carrying disk, 8, and to the dog secures the latter and causes it to engage the rack 3 or 7 as the case may be. The springs 13 are humped at 14 and the dog-carrying disk 8, is hollowed to receive the springs as shown at 15 in Fig. IV^{A}. The other operating disk 18 is the driving disk and has the pieces 16 and 17 rigidly secured to it. These pieces 16 and 17 are adapted, as hereinafter described, to move over the humps 14 of the springs 13 and disengage one or the other dog 9 or 10, as the case may be, from engagement with its rack. The dog-carrying-disk 8, is bolted or otherwise fixed to the sleeve 19 which forms a casing for the outer anti-friction bearing 30 and also forms a journal for the ring 28 which is attached to the driving sprocket-wheel 21, and also to the driving disk 18. A sheet-metal casing 22, is fixed to the clutch disk 6, and, with felt ring 23, on

the driving disk 18, co-operates to exclude dust and dirt from the mechanism.

The steel band or clutch 24 lies in the recess 25, in the clutch disk 6 and operates against the walls 26 or 27 thereof. Part of the peripheries of the operating disks 8 and 18 are cut away as shown at *b*, as in Figs. VIII, IX, X and XI. One end 40 of the band 24 is united to the driving-disk 18, and the other end 41, to the dog-carrying disk 8. The centering lever 29 is simply for returning the operating disks 8 and 18 to a certain position called neutral and shown in Fig. VIII. It is pivoted at 30 to the dog-carrying disk 8 and its cam-shaped outer end bears against a spring 31, fixed to said disk. Its inner end is slotted to engage a stud 32, carried by the driving disk 18. Locking springs 33 and 34 are mounted on the disk 8 and have shoulders at 35 which engage with studs 36, 37 on disk 18 for the purposes hereinafter set forth.

The operation of the invention is as follows: In Fig. VIII, the operating disks are in the "neutral" position relatively to themselves; that is, the position they assume with relation to each other when there is no force applied to the treadle. The centering lever 29 forced by the spring 31, is the cause of the disks assuming this relative position which is called neutral because they have no operating effect. When these disks are neutral neither of the plates 16 or 17 on the driving disk 18 covers the hump 14, on the plate springs 13, under them. As a consequence both the dogs 9 and 10, project from the other side of the dog-carrying disk 8. Now, if the driving disk 18 be moved backward in the direction of the arrow *x*, Fig. III, the pin 32 operating through the centering lever 29, moves the dog-carrying disk 8, backward with it, maintaining their neutral position until the dog 9 is intercepted by a tooth of the rack 3 on the stationary disk 2 when the dog-carrying disk can no longer turn backward. The dog 10 simply slips backward on the rack 7 of the clutch disk 6. Should this clutch disk (with the wheel of the cycle) be revolved forward the dog 10 will drop down behind each tooth of the rack 7 making a noise. If the driving disk 18 moves still farther backward the pin 32 must move the centering lever which assumes, with the disks the position shown in Fig. IX. The pin 36 slides easily upon the spring 33 having no effect. The pin 37 slides easily upon the spring 34, until reaching its shoulder 35 which gives a decided resistance, notifying the wheelman and allowing him to rest his feet without too delicate a pressure or fear of passing this position. The clutching strap 24 is now about two-thirds the distance from the outer clutching surface 27, and about one-third from the inner. The plate 16 on the driving disk has moved away from the hump 14 of the spring under it. But the plate 17 has moved against, shoved down, and rides on top of the hump 14 on the corresponding spring 13 of dog 10. This causes the dog 10 to rise from the ratchet 7. This is more clearly understood by referring to Figs. IV and IV^{A} in which Fig. IV shows the first or neutral position of either plate 16 or 17 and Fig. IV^{A} the present position and effect of the plate. The dog 10, cannot now rattle when the ratchet 7 is moved forward by the rolling of the cycle wheel. Therefore this is called the silent coasting position. It is obvious that if enough back pressure is applied to the driving disk 18 the pin 37 will snap past the shoulder 35 on the spring 34, after which it slides easily into the position shown in Fig. X, called the braking position. Plate 17 is still farther from the hump 14, on the spring under it as shown in Fig. IV; while the plate 16 shown in Fig. IV^{A} still holds the dog 9 up in the silent position. But the end 41 of the clutching band 24 carried by disk 8 has been forced so near to its other end which the dog 9 prevents from moving, as to clinch the band against the inner clutching surface 26, of the groove 25, in the clutch disk. Thus it acts as a simple band brake, the pressure depending upon the backward force received from the driving disk. Now, as soon as the braking pressure is sufficiently relieved the centering lever 29, brings these operating disks back again to the silent coasting position, Fig. IX. If the wheelman wishes to drive the machine forward, as he moves the treadles forward the driving disk 18 responds but the centering lever 29 does not move the dog-carrying-disk 8, until said centering lever has brought the operating disks into the neutral position, Fig. VIII, in which position it will be remembered both the dogs are ready to engage with their respective ratchets. If the driving wheel and the clutch disk 6, are revolving the dog 10, will click against its rack 7, and if the treadles and driving disk 18 be moved forward the pin 32 operating through the centering lever 29 moves the dog-carrying-disk, in the same direction, the dog 9 clicking against the ratchet 3, on the stationary disk 2. When the forward motion of the operating disks 8 and 18, causes the dog 10 to catch up with the motion of the clutch disk 6, said dog engages with a tooth of the clutch disk 6; said dog engages with a tooth of the rack 7. This retards the motion of the dog-carrying-disk 8, while the driving disk 18, may be still farther driven ahead till the operating disks are in the position shown in Fig. XI called the driving position. By this time the end 40 of the clutch band attached to the driving disk has been moved so far from the end 41 attached to disk 8 as to expand the band and clinch it against the outer clutching surface 27, when the driving disk 18 can revolve no faster than the clutch disk. When the operating disk is moved from the neutral position into the driving position, the plate 16, on the driving

disk 18, depresses the hump 14, on the corresponding spring 13 and raises the dog 9, as shown in Fig. IV^A so that it will not click against the rack 3 on the stationary disk 2. Instead of the positively acting clutches having dogs engaging toothed pawls, herein shown and described, I may employ silent or friction clutches.

To carry the pedals over the dead-center, it is necessary to provide for any merely accidental dislodgment of the connection between the dog-carrying disk 8 and the clutch-disk 6 while pedaling. I therefore provide the stud 36 which when the disk 18 is shifted when starting to propel the machine is brought into engagement with a shoulder on the locking spring 33 of disk 8 so that the disks 8 and 18 are held sufficiently together to insure the carrying of the pedals over the dead-center. But the locking spring 33 is readily dislodged by a momentary pressure in back-pedaling for the purpose of beginning to apply the brake.

(I may remark that I adopt the term "disk" for certain parts merely as a short term conveying approximately the shape of such parts, which are however, in reality, preferably not flat disks, but circular dished pieces of metal centrally pierced for the passage of the axle 1.)

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a bicycle or other cycle, the combination of the treadles, the driving wheel, a braking wheel or disk, and a clutch operated by the treadle and adapted to be placed by pressure on said treadle in connection with either the driving wheel or said brake-disk or wheel, substantially as set forth.

2. In a bicycle or other cycle, the combination of the treadles, a driving disk or member operated thereby, a clutch disk or member connected to the driving wheel, a braking disk or member and a band brake operated by said driving disk or member and having means for connecting it with said clutch disk or said brake disk and applying thereby driving or braking pressure, substantially as and for the purposes set forth.

3. In a bicycle or other cycle, the combination of the driving sprocket wheel [illegible] member 21, the driving disk 18 connected thereto, the dogs the dog-carrying-disk 8, the clutch-disk 6, the braking disk 2 connected to the wheel axle and the band brake 24 and having its opposite ends connected to its disks 18 and 8 and arranged and adapted to operate substantially as and for the purposes set forth.

4. In a bicycle or other cycle, the combination of the driving wheel or member 21, the driving disk 18, the dogs the dog-carrying-disk 8, clutch-disk 6, the braking disk 2, the band brake 24 connected to said disks 18 and 8 as set forth and the dog-operating plate 17 carried by disk 18.

5. In a bicycle or other cycle, the combination of the driving wheel or member 21, the driving disk 18 connected thereto, the dog-carrying-disk 8, the clutch-disk 6, the brake disk 2, the band brake 24, the dogs 9, 10 having springs 13, 14 and the dog-operating plates 16, 17 mounted on said disk 18 and arranged and adapted to operate substantially as set forth.

6. In a bicycle or other cycle, the combination of the disks 8 and 18 and 6, the band brake 24 having its ends connected to said disks 8 and 18 and the spring-returning lever 29 arranged and adapted to operate, substantially as set forth.

7. In a bicycle or other cycle, the combination of the disks 8 and 18, a clutch and brake mechanism operated thereby, the spring 33 and stud 36, arranged and adapted to operate, substantially as set forth.

8. In a bicycle or other cycle, the combination of the disks 8 and 18, a clutch and brake mechanism operated thereby, the spring 34 and stud 37 arranged and adapted to operate, substantially as set forth.

WM. A. COURTLAND.

Witnesses:
R. I. BROWN,
M. V. BIDGOOD.



A.D. 1884, 2nd JANUARY. N° 295.

Improvements in Tricycles and other Velocipedes.

PROVISIONAL SPECIFICATION.

I JAMES SIMEON EDGE, the younger of Coleshill Street Birmingham in the County of Warwick Mechanical Engineer do hereby declare the nature of my said invention for "IMPROVEMENTS IN TRICYCLES AND OTHER VELOCIPEDES" to be as follows:—

My invention has reference to the double drivers of tricycles and other velocipedes and consists of the construction and arrangements of parts hereinafter described for driving the tricycle or other velocipede and for permitting the travelling wheels to rotate at different speeds when the tricycle is moving in a curve and also of the brake mechanism hereinafter described to be used in combination with double drivers for checking the motion of the vehicle.

I will describe my invention in connection with a tricycle.

The chain wheel at each end of the shaft of the travelling wheels is driven from the crank shaft by the mechanism I am about to describe but I will only describe the said mechanism as applied to one end of the shaft Fixed to the said shaft by keying or otherwise is a circular plate or disc through which the driving is effected and which plate I will hereinafter call the driving plate. This plate carries three or other number of loose radial arms or grips the inner wedge shaped end of each of which takes into a notch in the bush of the driving plate a light coiled spring fixed at one end to the driving plate and at its other end to the arm or grip pulling the said grip in the direction contrary to that in which the shaft rotates in the advancing motion of the vehicle. The driving plate and grips are situated within the hollow chain wheel the said chain wheel turning freely on the shaft. On the inner face of the chain wheel is a projecting ring concentric with the shaft and each of the grips has a cross slot in it in which cross slots the said rings takes when the driving plate is in position within the chain wheel.

When the driver operates the pedals the initial motion causes the grips on the driving plate to take an oblique position the inner ends being carried forward by the notches in the bush and the outer ends being drawn backward by the coiled springs. This oblique position of the grips causes them to bind tightly on the ring of the chain wheel which is situated in their slots and the said chain wheel is immediately geared to and carried round by the driving plate. Immediately a backward motion is given by the rider to the pedal shaft the gripping action of the arms or grips is relaxed and the chain wheel and consequently the tricycle can travel while the pedals are stationary.

Edge's Improvements in Tricycles and other Velocipedes.

Instead of making the grips act by means of the slots described taking upon the ring on the chain wheel they may be made to produce the desired effect by means of their outer ends or heads. In this case the said outer ends or heads are made of such a size and shape that they travel freely in the annular space between the ring and the inner edge of the chain wheel when they are in their relaxed position but when they are inclined by the forward motion of the pedal shaft they wedge in the said annular space and carry round the chain wheel.

When the tricycle provided with the double driving mechanism described is being driven in a straight path both the travelling wheels are operated upon by the pedal shaft but when the tricycle is travelling in a curved path one of the travelling wheels rotates faster than the other and the virtual backward motion of the shaft in the gearing of the slowly moving travelling wheel ungears it from the driving plate herein before described and permits of its independent motion. When the crank shaft is wholly ungeared from the driving shaft the motion of the tricycle may be checked by an ordinary brake but under some circumstances for example in going down a steep hill it is highly desirable that the rider should have the power of checking the motion of the tricycle by means of his feet. To enable him to do this I use with the mechanism of the double driven tricycle a brake constructed as follows:—At a short distance from the driving mechanism I fix to the frame of the tricycle a plate through a central hole in which plate the crank shaft passes and works freely therein. On the said plate a hollow disc turns the said hollow disc carrying a ring and grips of the kind hereinbefore described. Between the said hollow disc and the chain wheel is a disc which I will call the brake plate. This brake plate is connected to the shaft by a sliding key so that it rotates with the shaft but is capable of a limited sliding motion thereon. The outer face of the hollow disc and the outer face of the brake plate are presented to each other and each face is provided with three or other number of inclines. When the tricycle is being driven or when it is advancing and the crank shaft is stationary the brake mechanism is out of action. In order to bring the brake into action it is only necessary for the rider to give a backward motion to the crank shaft through a small angle when by the action of the inclines described on the brake plate and hollow disc the said brake plate is made to slide on the shaft and is pressed so tightly against the face of the chain wheel that the tricycle is speedily brought to rest.

Dated this 2nd day of January 1884.

W. T. WHITEMAN,
Agent for the Applicant.

COMPLETE SPECIFICATION.

I JAMES SIMEON EDGE the younger of Coleshill Street, Birmingham in the County of Warwick, Mechanical Engineer, do hereby declare the nature of my invention for "IMPROVEMENTS IN TRICYCLES AND OTHER VELOCIPEDES" and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement :—

My invention has reference to the double drivers of tricycles and other velocipedes and consists of the construction and arrangements of parts herein after described, for driving the tricycle or other velocipede and for permitting the travelling wheels to rotate at different speeds when the tricycle is moving in a curve and also of the brake mechanism herein after described to be used in combination with double drivers for checking the motion of the vehicle.

I will describe my invention in connection with a tricycle.

The chain wheel at each end of the shaft of the travelling wheels is driven from the crank shaft by the mechanism I am about to describe but I will only describe the said mechanism as applied to one end of the shaft. Fixed to the said shaft by keying or otherwise is a circular plate or disc through which the driving is effected and which plate I will herein after call the driving plate. This plate carries three or other number of loose radial arms or grips the inner wedge shaped end of each of which takes into a notch in the bush of the driving plate, a light coiled spring fixed at one end to the driving plate and at its other end to the arm or grip pulling the said grip in the direction contrary to that in which the shaft rotates in the advancing motion of the vehicle. The driving plate and grips are situated within the hollow chain wheel, the said chain wheel turning freely on the shaft. On the inner face of the chain wheel is a projecting ring concentric with the shaft and each of the grips has a cross slot in it in which cross slots the said ring takes when the driving plate is in position within the chain wheel.

When the driver operates the pedals the initial motion causes the grips on the driving plate to take an oblique position the inner ends being carried forward by the notches in the bush and the outer ends being drawn backward by the coiled springs. This oblique position of the grips causes them to bind tightly on the ring of the chain wheel which is situated in their slots and the said chain wheel is immediately geared to and carried round by the driving plate. Immediately a backward motion is given by the rider to the pedal shaft the gripping action of the arms or grips is relaxed and the chain wheel and consequently the tricycle can travel while the pedals are stationary.

When the crank shaft is wholly ungeared from the driving shaft the motion of the tricycle may be checked by an ordinary brake but under some circumstances, for example in going down a steep hill it is highly desirable that the rider should have the power of checking the motion of the tricycle by means of his feet. To enable him to do this I use with the mechanism of the double driven tricycle a brake constructed as follows. At a short distance from the driving mechanism I fix to the frame of the tricycle a plate through a central hole in which plate the crank shaft passes and works freely therein. On the said plate a hollow disc turns the said hollow disc carrying a ring and grips of the kind hereinbefore described. Between the said hollow disc and the chain wheel is a disc which I will call the brake plate. This brake plate is connected to the shaft by a sliding key so that it rotates with the shaft but is capable of a limited sliding motion thereon. The outer face of the hollow disc and the outer face of the brake plate are presented to each other and each face is provided with three or other number of inclines. When the tricycle is being driven or when it is advancing and the crank shaft is stationary, the brake mechanism is out of action. In order to bring the brake into action it is only necessary for

the rider to give a backward motion to the crank shaft through a small angle when by the action of the inclines described on the brake plate and hollow disc, the said brake plate is made to slide on the shaft and is pressed so tightly against the face of the chain wheel that the tricycle is speedily brought to rest.

Figure 1 of the accompanying Drawings represents in plan and Figure 2 in end elevation a tricycle containing driving and brake mechanisms constructed according to my invention; Figure 3 represents an elevation of the inner side of the driving and brake mechanisms situated at one end of the crank shaft; Figure 4 represents an edge view of the same partly in longitudinal section and Figure 5 represents a longitudinal section of the same. In Figure 4 the brake is shown out of action and in Figure 5 in action; Figure 6 represents in section and Figure 7 in front elevation the chain wheel and the driving mechanism; Figure 8 represents in side elevation and Figure 9 in front elevation the driving plate together with the radial arms or grips carried by it; Figure 10 represents one of the grips separately; Figure 11 represents in longitudinal section and Figure 12 in side elevation and Figure 13 in front elevation (partly in section) the parts by which the brake is operated; Figure 14 represents in section and Figure 15 in front elevation the brake plate detached.

Figures 3 to 15 both inclusive are drawn of the full size. The same letters of reference indicate the same parts in the several Figures of the Drawings.

a, *a*, are the two travelling wheels and *b* is the crank shaft of the tricycle. On each end of the crank shaft *b* and turning loosely thereon is the chain wheel *c* which is geared to and ungeared from the crank shaft in the manner herein after explained. The chain wheel *c* is geared by a chain with the chain wheel c^2 on the axis of the travelling wheel *a* in the ordinary way. As the driving and brake mechanisms applied to each end of the crank shaft *b* are alike in construction and action I will describe those applied to one end only.

I will first describe the driving mechanism:—Fixed to the crank shaft *b* by being screwed onto the bush *d* fixed on the said shaft, is a circular plate or disc *e* hereinafter called the driving plate (shown separately in Figures 8 and 9). The driving plate *e* moves in the direction of the arrow Figure 9 when the crank shaft *b* rotates in the direction proper for advancing the tricycle. The driving plate *e* carries three loose radial arms or grips *f f* (one of which is shown separately in Figure 10) each arm or grip having a cross slot or depression f^2 in it. The inner end of each grip *f* bears against a shoulder *g* on the bush *d* fixed on the driving plate *e* and the outer end or head of each grip bears against the stop pin *h*. Or the inner end of each grip may take into a notch in the bush *d* as shown with respect to the brake grip. By means of a light coiled spring *i* fixed at one end to the arm or grip *f* and at the other end to the driving plate *e* the said grip is pulled in a direction contrary to that indicated by the arrow Figure 9, that is, in a direction opposite to that in which the crank shaft *b* and plate *e* rotate in the advancing motion of the tricycle. The driving plate *e* and grips *f*, *f* are situated within the hollow chain wheel *c* (see Figures 6 and 7) the said chain wheel as hereinbefore stated turning freely on the bush *d* of the crank shaft *b*.

On the inner face of the chain wheel *c* is a projecting ring *k* concentric with the shaft *b* and the cross slot or depression f^2 of each grip *f* takes upon the said ring *k* as represented in the Drawing.

When the driver operates upon the pedals the initial motion causes the loose grips *f* on the driving plate *e* to take the oblique position indicated by the dotted lines at *l* Figure 7, the inner ends of the grips being carried forward by the projections *g* on the bush and the outer ends being drawn backward by the coiled springs *i*. The oblique position which the grips take as illustrated at *l* Figure 7 causes them to bind tightly on the ring *k* of the chain wheel *c* and the said chain wheel is immediately geared to and carried round by the driving plate *e* and through the chain and chain wheel c^2 on the shaft of the travelling wheel the tricycle is driven. Immediately a backward motion is given by the rider to the pedal shaft *b* the gripping action of the arms or grips *f* on the ring *k* of the chain

wheel *c* is relaxed and the said chain wheel and consequently the tricycle can travel while the pedals are stationary.

When the tricycle having the double driving mechanism represented is being driven in a straight path both the travelling wheels *a a* are operated upon by the pedal shaft through the driving plates *e, e* and chain wheels but when the tricycle is travelling in a curved path one of the travelling wheels rotates faster than the other and the virtual backward motion of the shaft in the gearing of the quickly moving travelling wheel causes the driving plate *e* of that wheel to be ungeared from the chain wheel *c* and thereby permits of the independent motion of the said quickly moving travelling wheel *a*.

Instead of making the grips act by means of the slots described taking upon the ring *k* on the chain wheel, they may be made to produce the desired effect by means of their outer ends or heads. In this case the said outer ends or heads are made of such a size and shape that they travel freely in the annular space between the ring *k* and the inner edge of the chain wheel *c* when they are in their relaxed position but when they are inclined by the forward motion of the pedal shaft they wedge in the said annular space and carry round the chain wheel.

I will now describe the brake mechanism :—*p* is a plate fixed by the snugs *n, n* to the ball bearing *m* in which ball bearing the crank shaft *b* works. Turning on the said plate *p* is a hollow disc *q* (see Figures 11, 12 and 13) a tubular bush q^2 on the hollow disc *q* turning on the crank shaft *b*. The disc *q* is furnished with a ring q^3 and also with a loose grip *r* similar to the grips of the driving mechanism excepting that the inner end of the grip *r* takes into a depression r^3 in the tubular projection p^2 on the plate *p* as represented. Between the hollow disc *q* and chain wheel *c* is a cupped brake plate *s* covered on its periphery with leather. This brake plate *s* seats itself in the cupped part c^2 of the chain wheel *c*. The brake plate *s* is connected to the crank shaft by a sliding key at *t*, t^2 so that the said brake plate rotates with the crank shaft *b* but is capable of a limited sliding motion on the bush of the shaft (see Figures 4, 6 and 15). The disc *q* and brake plate *s* are geared and rotate together by the engaging of the shoulders of the inclines q^4 on the disc *q* with the shoulders of the inclines s^2 on the brake plate *s* (see Figure 5). By means of these inclines q^4 s^2 the sliding motion of the brake plate *s* to put it into action is effected as herein after explained.

When the tricycle is being driven or when it is advancing and the crank shaft *b* is stationary the brake mechanism is out of action, that is, the brake plate *s* does not bear closely against the hollow or cupped part c^2 of the chain wheel *c* (see Figure 4) and the brake grip *r* (Figures 11 and 13) does not bear upon the ring q^3 of the hollow disc *q* consequently the said hollow disc *q* and the brake plate *s* rotate together. In order to bring the brake into action it is only necessary for the rider to give a backward motion to the crank shaft *b* through a small angle. A like motion is thereby given to the hollow disc *q* (in a direction contrary to that indicated by the arrow in Figure 13) and the point or inner end of the brake grip *r* being thereby brought against the shoulder r^3 of the recess r^3 in the tubular projection p^2 on the fixed plate *p* an oblique position is given to the said grip which thus becomes fixed between the ring q^3 and the outer ring of the disc *q* which disc *q* is thereby brought to rest or locked to the fixed plate *p*. The further rotation of the brake plate *s* causes its incline at s^3 to slightly advance upon the inclines q^4 of the now fixed disc *q* whereby the said brake plate *s* is made to slide on the bush *d* and is pressed so tightly against the cupped face c^2 of the chain wheel *c* that the tricycle is speedily brought to rest. On again rotating the crank shaft *b* in the direction for advancing the tricycle, the brake grip *r* is relaxed on the ring q^3 of the disc *q* and the said disc *q* and the brake plate *s* again rotate together and the brake is taken out of action.

When it is required to hold the brake plates *s s* out of action for back pedalling that is for driving the tricycle backwards I use the following hand worked mechanism for that purpose. To the back of each of the fixed plates *p* an arm or lever *u* is jointed at u^2. Each lever *u* carries a stud *x* on its inner side in such a

position that it can operate upon and hold out of action the brake grip r. To the outer ends of the levers u, connecting rods u^3, u^3 are jointed and the upper ends of the latter are coupled together by being jointed to the ends of arms u^4 on the ends of the cross rod or axis u^4 swivelling in the frame of the tricycle. By means of a coiled spring w (see Figure 2) fixed at one end to the framing and at its other end to one of the arms u^5, the said arms u^5 and rods u^3 are pulled down and the levers u, u are depressed so as to take their studs x out of action as represented in Figures 3 and 13. One of the rods u^3 is prolonged upwards and constitutes a lifting handle u^6. By pulling upwards the said handle u^6 the two levers u u are simultaneously made to take the dotted position shown in Figure 3. When in this position the studs x on the levers u bear against the heads of the brake grips r and the latter are prevented from taking their oblique position to lock the hollow disc q with the fixed plate p.

In order to back pedal that is to drive the tricycle backwards the rider presses the crank in its backward direction. The result of this action is that the brake plate s is forced into the recess c^2 of the chain wheel c and the brake now acting as a friction clutch carries the chain wheel c with it in its backward motion. In order to permit of this backward motion the brake grips r are lifted out of gear by raising the levers u u as already described.

The driving mechanism may be used alone that is not in conjunction with the brake mechanism as illustrated in the drawings. In this case the chain wheel is not cupped as is necessary when a brake plate is used in conjunction with it.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is

First—The construction and combination of parts hereinbefore described and illustrated in the accompanying Drawings of double drivers for tricycles and other velocipedes; that is to say, fixing on each end of the crank shaft a driving plate carrying a series of loose radial arms or grips the said plates and grips being situated within the hollow chain wheel turning loosely on the crank shaft, the gearing of the said loose chain wheel with the fixed driving plate on the crank shaft being effected by causing the said grips, on the driver operating the pedals in a direction proper for advancing the tricycle, to take an oblique position, whether the grips in taking their oblique position act upon a ring of the hollow chain wheel or wedge between the said ring and the inner edge of the said chain wheel substantially as described and illustrated.

Secondly—The construction and combination of the parts of the brake operated from the crank shaft herein before described and illustrated in the accompanying Drawings, that is to say, a brake used in combination with a loose chain wheel on the crank shaft, the said brake consisting of a fixed plate carrying a grip or grips and a hollow disc geared to a cupped brake plate by teeth or inclines, the brake being put into operation by the rider giving a backward motion to the crank shaft, thereby gearing the hollow disc with the fixed plate and causing the advance or sliding of the brake plate against the cupped chain wheel, the several parts being constructed and acting substantially as described and illustrated.

Lastly—The construction and combination of parts herein before described and illustrated in the accompanying Drawings for holding the brake out of action by hand for back pedalling or back driving.

Dated this Eighth day of September 1884.

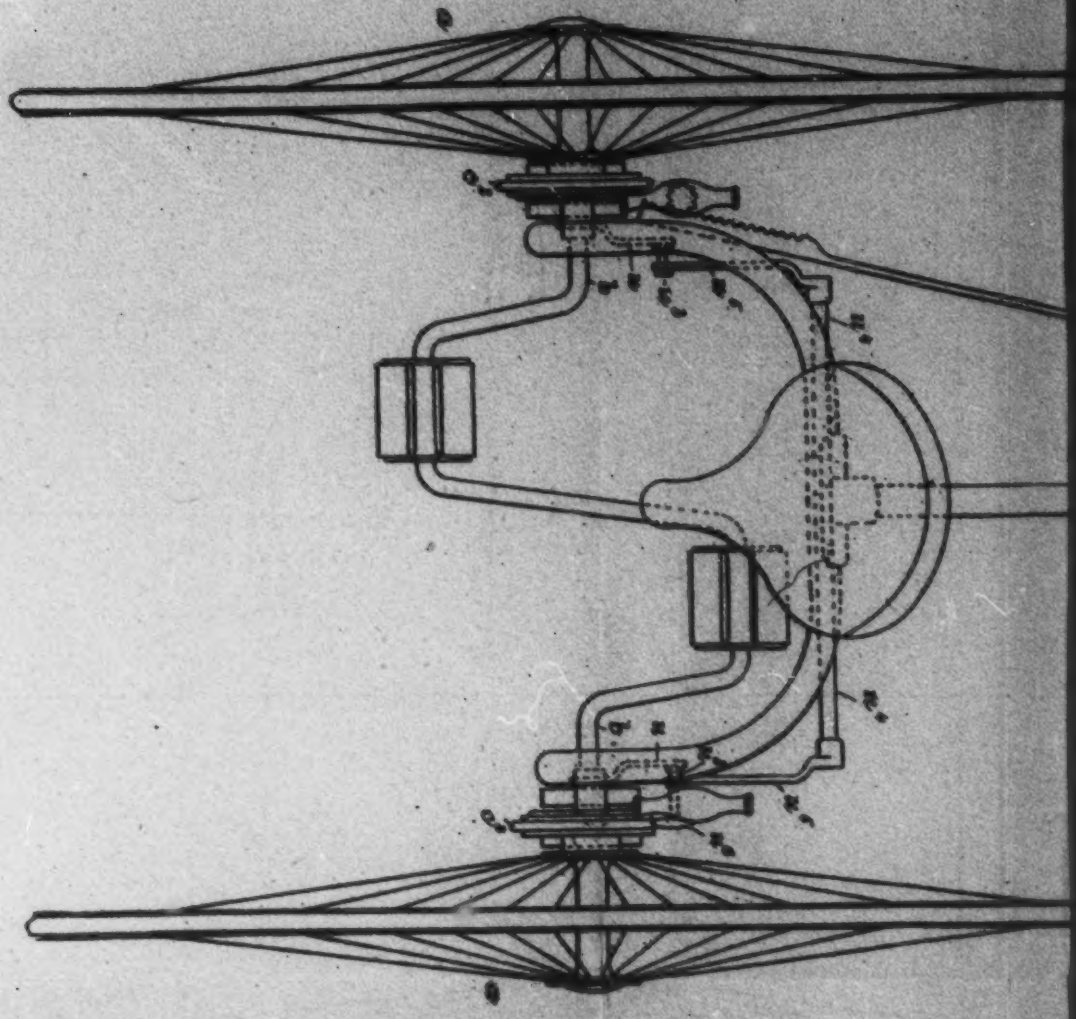
JAMES SIMEON EDGE, Jun.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.

[G. 7236—100—8/1903.]

DGE'S COMPLETE SPECIFICATION.

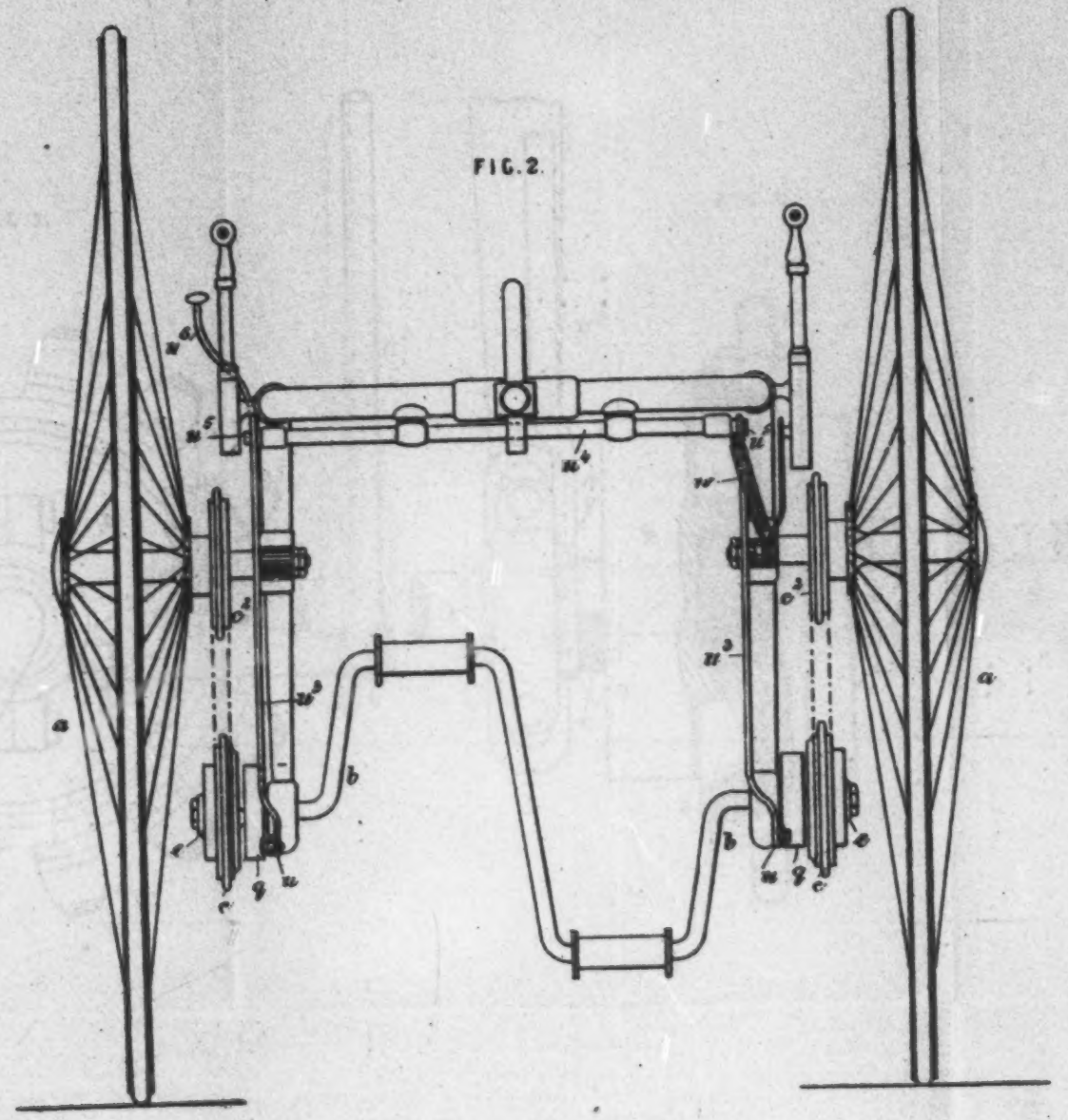
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(4 SHEETS)
SHEET 1.

FIG.1.

FIG. 2.



Jan. 2. N° 295.
Complete Specification.
(3rd Edition)

(4 Sheets)
Sheet 3.

FIG.3.

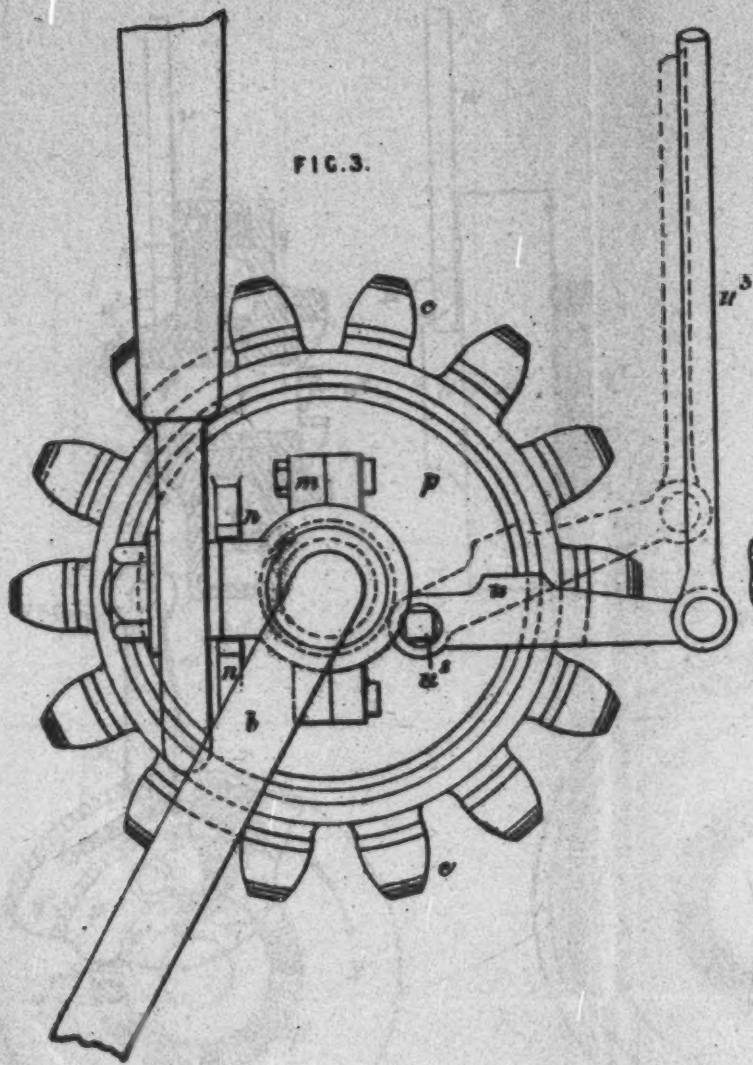


FIG.4.

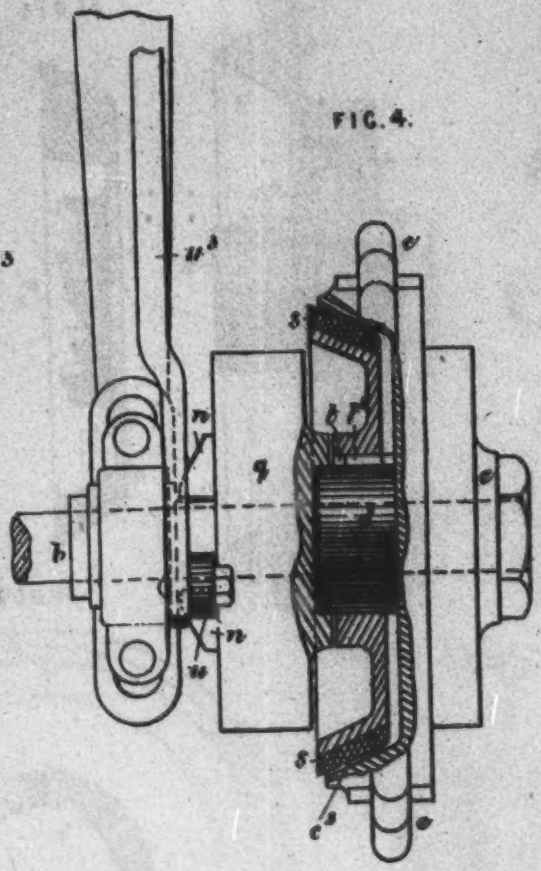


FIG.5.

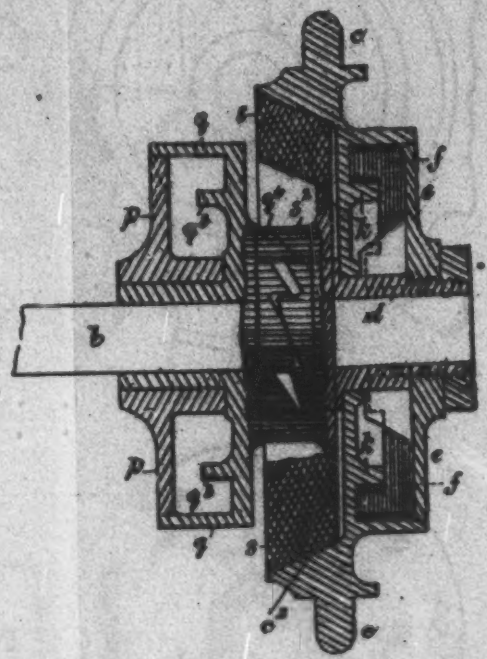


FIG. 11.

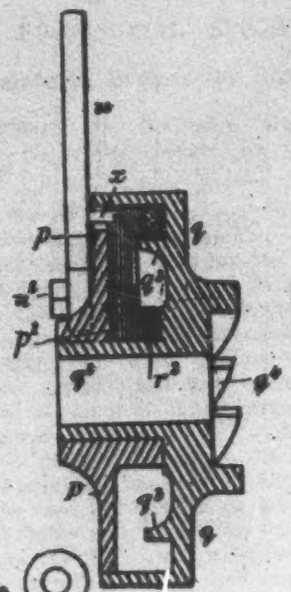


FIG. 12.

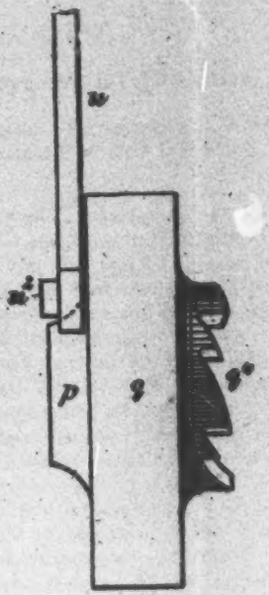


FIG. 14.



FIG. 6.

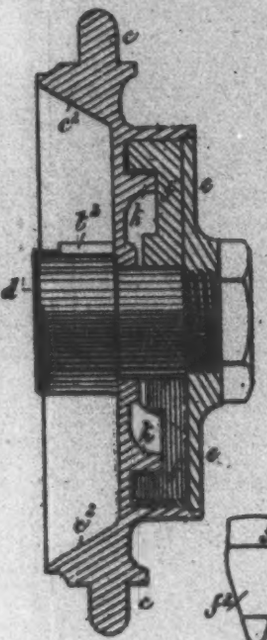


FIG. 7.

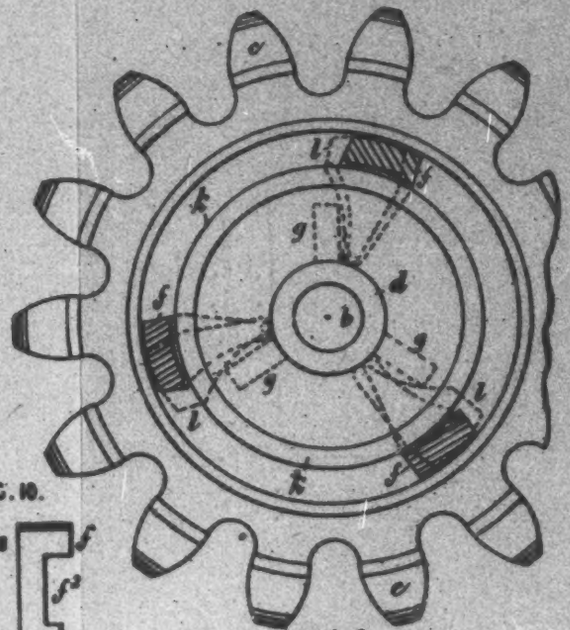


FIG. 10.



FIG. 13.

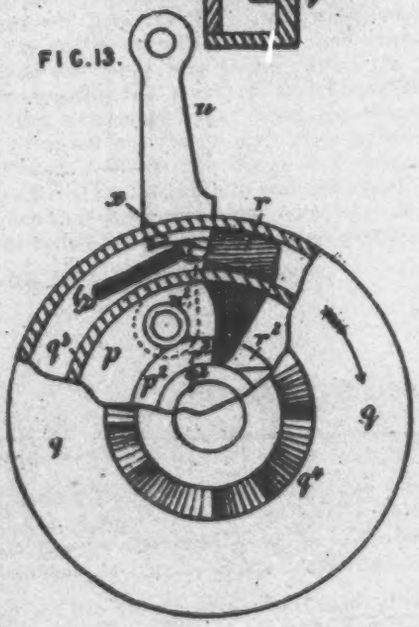


FIG. 15.

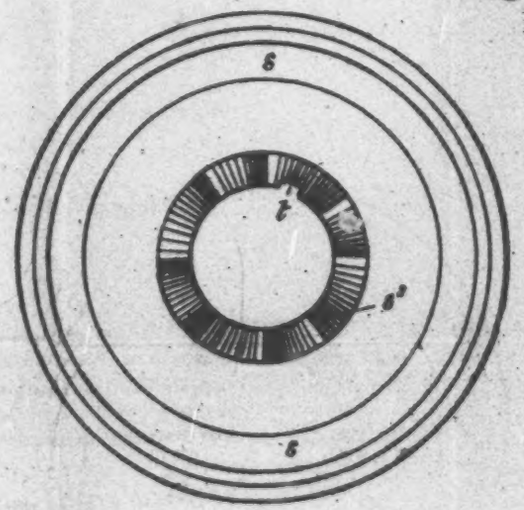


FIG. 8.

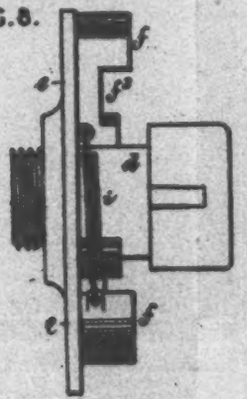
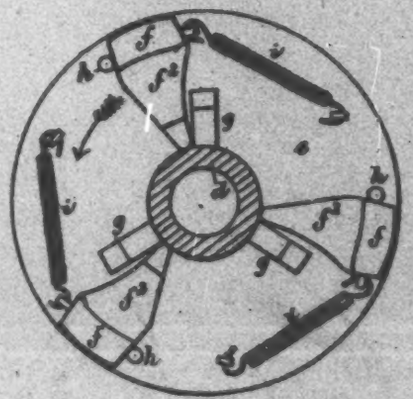


FIG. 9.



Second Edition.]

N° 16,732 A.D. 1894

Date of Application, 3rd Sept., 1894
Complete Specification Left, 4th June, 1895—Accepted, 31st Aug., 1895

PROVISIONAL SPECIFICATION.

Improvements in Brakes for Bicycles and Tricycles.

LEWIS OWEN MICHAEL 88 Bordesley Green Birmingham Warwickshire Commercial Traveller do hereby declare the nature of this invention to be as follows:—

This invention has for its object the applying of the brake power to the rear wheel, and adapting the back pedaling motion in an improved manner, so as to enable the rider to apply the brake with his feet on the pedals. I am aware this has been done in other forms before, but the brake in that case was applied to the tyre of the rear wheel, this being liable to damage the tyre and on pneumatic tyres not giving the requisite grip; I entirely superseed by my improvement.

In carrying my invention into effect I allow the bottom bracket chain wheel to run loose on the crank spindle; and firmly fixed on the said crank spindle is a clutch arrangement, various kinds of clutch arrangements may be used but I prefer to employ what is termed a roller clutch as described in Patent No. 512 1881. This roller clutch works inside a flange on the bottom bracket chain wheel; and outside of this flange I apply my improved brake.

A band brake may be used but I prefer to use two halves of a circle made to fit the outside of the said flange and hinged together at one end, so that when drawn together they will grip the flange, and when loose the flange can run free between them. To the centre of each of these half circle brakes I fix one end of a small crank the other end being fixed to the part of the roller clutch that is firmly fixed on the crank spindle, the point of attachment being at right and left angles from the centre, and so arranged that when the crank spindle is propelled forward the brakes are lifted off the flange and when a back pedalling motion is made the brakes are drawn down on the flange and thus brakes the chain wheel the brake power being carried by the chain to the rear wheel.

The feet can thus be at rest while travelling down hill and a back pressure can be put on the pedals according to the brake power required.

Dated this 1st day of September 1894.

LEWIS OWEN MICHAEL.

COMPLETE SPECIFICATION.

Improvements in Brakes for Bicycles and Tricycles.

I, LEWIS OWEN MICHAEL of 88 Bordesley Green Birmingham in the County of Warwick, Commercial Traveller do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention has for its object the application of the brake power to the rear wheel and the adaption of the back pedalling motion in an improved manner to enable the rider to apply the brake with his feet on the pedals.

I am aware this has been attempted in other forms before but previously the brake has been applied to the tyre of the rear wheel which is most liable to

damage the tyre and does not give the requisite grip when applied to pneumatic tyres and is entirely superceeded by my improvement.

In carrying my invention into effect I allow the bottom bracket chain wheel to run loose on the crank spindle and firmly fixed on the said crank spindle is a clutch arrangement. Various kinds of clutch arrangements may be used but I prefer to employ what is termed a roller clutch.

This roller works inside a flange on the bottom bracket chain wheel and outside this flange I apply my improved brake. A band brake may be used but I prefer to use two halves of a circle made to fit the outside of this flange and hinged together at one end; so that when drawn together they will grip the flange and when loose the flange can run free between them. To the centre of each of these half circle brakes I fix one end of a small crank the other end being fixed to the part of the roller clutch that is firmly fixed on the crank spindle, the point of attachment being at right and left angles from the centre and so arranged that when the crank spindle is propelled forward the brakes are lifted off the flange, and when a back pedalling motion is made the brakes are drawn down on the flange, and thus brake the chain wheel, the brake power being carried by the chain to the rear wheel. The feet can thus be at rest while travelling down hill and a back pressure can be put on the pedals according to the brake power required.

In order that my invention may be clearly understood and more easily carried into practice I have appended hereunto a sheet of drawing—upon which I have fully illustrated the nature of my said improvements together with the mode of and means for carrying the same into effect.

Figure 1 is a sectional elevation of the interior of one of my chain wheel brakes.

Figure 2 is a vertical section through Figure 1.

Figure 3 is a similar view to Fig. 1 pu[illegible] shewing only the centre part for the purpose of illustrating a modification of the brake.

Figure 4 is a view of the sprocket wheel complete.

In carrying my invention into effect I mount the sprocket wheel A to run loose on the crank spindle B^1. Upon the crank spindle & firmly secured to it is the block B which in combination with the rollers C and flange A^1 forms a well known clutch arrangement between the wheel A and crank spindle B^1. Around the flange A^1 the band brake, E is provided and is connected at b^3 with the block B by the link E^1 the other end e^1 one of which is attached to the said band E in such a manner that as the link E^1 is caused by means hereafter described to take the position shewn by dotted lines e^2 the brake band E is thereby caused to bind the flange A^1 at A^2 as shewn by dotted lines e^3 thereby creating friction between the band E and flange A^1 by which a brake to the sprocket-wheel A may be obtained. The action being as follows—When the forward treadling is in progress and the spindle B^1 is being propelled in the direction of the arrow X the rollers wedge between the centre block B and the flange A^1 by which means the wheel A is carried in that direction as indicated by arrow W but immediately back pedalling is commenced and the direction of spindle is changed to that indicated by the arrow Z then the action causes the lever E^1 to press the band E against the flange A^1 and thus brakes the progress of the chain wheel. In the case of the modification shewn by Figure 3, the brake consists of two half circles J & J^1 which are arranged as shewn so that upon the spindle being operated in a forward direction as shewn by arrow X they are lifted off the flange as shewn but upon the action of the spindle B^1 being reversed the links K draw the two points J and J^1 together & thus grip the flange.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed I declare that what I claim is:—

The improvements in brakes for bicycles and tricycles by which the brake power

is attached and applied to the bottom bracket chain wheel and automatically operated by the back pressure of the pedals whether they are at rest or rotating substantially as and for the purpose herein set forth and shewn.

Dated this 1st day of June 1895.

LEWIS OWEN MICHAEL.

Redhill: Printed for Her Majesty's Stationery Office, by Malcomson & Co., Ltd.
[C. 3794—50—16/9/97.]

A.D. 1894. Sep. 3. N° 16,732.
CHAEL'S Complete Specification.

(1 Sheet)

(2nd Edition)

[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 3.

Fig. 4.

Fig. 1.

Fig. 2.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

o all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the bound olumes of the library of this office of the complete specification and rawing, in the matter of the English letters patent to Alfred Julius oult. Date of application January 12, 1891. Accepted February 1, 1891, number 597, for improvements in velocipedes.

In testimony whereof, I have hereunto set my hand and caused he seal of the Patent Office to be affixed at the city of Washington, his 2nd day of July, in the year of our Lord one thousand nine hunred and one and of the Independence of the United States of America he one hundred and twenty-fifth.

[SEAL.]

F. I. ALLEN,
Commissioner of Patents.

N° 597 A.D. 1891

Date of Application, 12th Jan., 1891—Accepted, 21st Feb., 1891

COMPLETE SPECIFICATION.

Improvements in Velocipedes.

A communication from CHARLES FREDERICK STOKES, of 247, Oakwood Boulevard, Chicago, Illinois, United States of America.

I, ALFRED JULIUS BOULT, of 323 High Holborn, in the County of Middlesex, M.I.M.E. do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

My invention relates to improvements in velocipedes generally, though certain features thereof are especially designed for "safety" bicycles, my object being to provide improved propelling mechanism, whereby when the velocipede is in motion, and particularly in coasting, the pedals may be held against rotation to afford a rest for the feet of the operator without obstructing the movement of the wheels, and whereby the pedals may then be controlled by the rider to exert a braking effect upon the driving wheel. My object is further, to provide a new and increasedly effective disposition of spring-mechanism in a velocipede, for enhancing the comfort of the rider.

In the drawing—

Figure 1 is a view in elevation of a safety bicycle provided with my improvement;

Figure 2, an enlarged broken section taken on line 2 of Figure 1, and viewed in the direction of the arrows;

Figures 3 and 4 enlarged detail views of the propelling mechanism; and

Figure 5, a broken view showing a modified construction.

The framework of the bicycle illustrated comprises a front-fork, A, a frame in the nature of a backbone, B, and a frame, C, integral with each other, constituting together the seat-supporting frame, and a rear-fork or driving-wheel frame, D. The seat supporting frame is provided on its rear side and near its lower extremity with an off-set or shoulder, t, which is strengthened by a brace, t^1, extending upward to the said frame, as shown. On the underside of the frame B, C, is an ear, s, to which the rear-fork is pivotally secured at its forward end. Upon the rear-fork directly under the shoulder t is a boss, r, from the centre of which rises a rod or bolt, r^1, threaded along its upper portion which extends loosely through an opening in the shoulder. About the bolt r^1 is a coiled spring, q, which bears at opposite ends, respectively, against the boss r and underside of the shoulder t; and on the upper side of the shoulder the bolt r^1 is provided with a nut, q^1, which by bearing against the upper side of the off-set holds the parts together against the resistance of the spring, and which may be tightened or loosened to increase or diminish the tension of the spring when desired. Owing to the nature of the construction the weight of the rider is borne, mainly at least, by the spring q which affords a cushion to diminish the jolting effect upon the rider in traversing rough roads. The spring q is of stiff quality and its expansion and contraction is within such short limits that in its action with the pedals in the position shown no such lengthening and shortening of the distance between the saddle and pedals occurs as would prove objectionable to the rider. However, such variations in distance between the seat and pedals could be readily decreased or overcome by moving the bearing for the pedal shaft toward or to the point of pivotal connection between the frames. Although the spring q acts more especially to cushion the seat-supporting frame against the jolting of the rear-wheel, which jolting, that wheel being most nearly under the rider, would, necessarily, the more immediately affect him, inasmuch as the weight of the rider is distributed over both wheels, the spring q will, obviously, also in a measure exert its cushioning effect against jolting to which the forward wheel is subjected. To further

neutralize any jolting effect from the front wheel, however, I provide a front-fork of the construction shown and to be described.

Pivotally supported upon the axle of the front wheel, at opposite sides of the latter, are links *p*, to the free ends of which the ends of the fork A are pivotally secured. Upon the forks and extending over the links near the latter are off-sets or shoulders *o*. Rods or bolts *n* extend upward from the links above the axle, and through openings in the shoulders *o*. About the bolts between the links and shoulders are springs *m*, and the bolts are threaded along their upper portions to receive nuts m^1 which hold the parts in position and by means of which the tension of the springs may be regulated, if desired. The front-fork and weight sustained thereby exert their pressure upon the springs *m*, the links operating merely to afford the necessary secure connection between the front-fork and axle.

If desired, the off-sets shown may be dispensed with and the shoulders afforded by bends in the forks, in which case the upper portions of the forks would extend in direct line with the rods *n*, and therefore in direct line with the expansion and contraction of the spring *m*, as shown in Figure 5.

Upon the pedal shaft, E, near one end is an independently rotary wheel or disk *l*, provided with a peripheral laterally extending rim, l^1, on its outer side and a hub, l^2, on its inner side, formed with a smooth annular bearing surface, l^3, around its periphery. The hub abuts and rotates against the ball bearing, *x*. The sprocket-wheel, F, which drives the rear-wheel of the bicycle through the medium of the usual link-belt, is also in the form of a disk with a central opening at which it fits and rotates upon the bearing surface l^3, and a peripheral laterally extending rim *k*, which projects over the rim of the part *l*, and has its inner periphery formed with an annular friction surface, k^1. The sprocket wheel is held in place by a collar, *i*, upon the hub. On the face of the disk *l* bounded by its rim l^1 are sliding blocks *h*, which may be in the form of plungers, working through openings in the rim and held in place by lateral guides h^1. The plungers are provided with springs h^2 which bear against the rim l^1 and tend, normally, to force the plungers inward toward the centre of rotation of the disk. The plungers are formed with rounded inner ends, h^3 as shown. Upon the shaft E and preferably integral therewith is a cam disk, *g*, formed around its periphery with alternate round and hollow surfaces, as shown. When the rounded ends of the plungers are in the hollows of the cam disk, the outer ends of the plungers are out of frictional contact with the surface k^1, of the sprocket-wheel; turning of the pedal-shaft in either direction, however, causes the plungers to be forced outward by the cam contrary the resistance of their springs, against the surface k^1 of the sprocket-wheel, which they grip, causing the latter to turn with the shaft. A circular plate, *f*, removably secured to the shaft, fits loosely into the rim l^1 and operates as a housing or dust-guard for the plungers and attendant parts.

The intermittent gripping mechanism described may be so adjusted as to grip and release without apparent lost motion, and as the drive-wheel may be turned to travel forward or backward, by the pedals, and as the velocipede may travel without consequent rotation of the pedals, the grip being released when the pedals are at rest, the rider may rest his feet upon the pedals while coasting. He is thus able to maintain perfect control over the motion of the device, as in case of too high speed or danger of accident, he may exert a desired degree of pressure in the reverse direction against the pedals, which will cause the gripping mechanism to operate as a supplemental brake.

Two plungers, *h*, I believe to be ample under all circumstances, to produce the necessary gripping effect against the rim *k*, though more plungers could be readily provided if desired. The periphery of the cam-disk *g*, shown, is provided with four hollows alternating with rounded portions, so that in case of wear upon the two cam surfaces in use, the disk may be turned to present new hollows, and thus prolong the usefulness of the cam.

The off-set *t* and its brace t^1, besides affording a bearing for the spring *q*, add materially to the strength of the seat-supporting frame.

The intermittent-grip mechanism, described, and the cushioning springs, are all subject to slight variations, in the matter of details of construction, which would not change the functions of those parts or depart from the spirit of my invention as set forth in the claims.

Having now particularly described & ascertained the nature of the said invention, as communicated to me by my foreign correspondent, and in what manner the same is to be performed, I declare that what I claim is :—

1—In a velocipede, the combination with the seat-supporting frame of a rear-wheel frame pivotally connected with the seat supporting frame, and a spring interposed between the said frames adjacent to their pivotal connection, substantially as and for the purpose set forth.

2—In a velocipede, the combination with a vertically extending seat-supporting frame, of a rear-wheel frame pivotally connected at its forward end with the lower end of the seat supporting frame, and extending at an angle therefrom, and a spring confined in the angle between the two said frames near their pivotal connection, substantially as and for the purpose set forth.

3—In a velocipede, the combination with a vertically extending seat-supporting frame, of a rear-wheel frame pivotally connected at its forward end with the seat supporting frame, and extending at an angle therefrom, a spring confined in the said angle adjacent to the said pivotal connection and bearing at opposite ends against the said frames respectively, and stop mechanism, as the bolt q and its nut q^1, for limiting the distance of separation of the said frames, substantially as and for the purpose set forth.

4—In a velocipede, the combination with a vertically disposed seat-supporting frame, of a rear-wheel frame pivotally connected at its forward end with the lower end of the seat-supporting frame and extending at an angle therefrom, a shoulder, t, upon the seat-supporting frame, a brace, t^1, extending upward from the said shoulder to the said frame, a spring confined in the angle between the two frames and bearing at opposite ends, respectively, against the shoulder t and rear-wheel frame, and a rod, r^1, upon the rear-wheel frame extending through an opening in the said shoulder and limiting the distance of separation of the two frames, substantially as and for the purpose set forth.

5—In a velocipede, the combination with a seat-supporting frame, of a front-fork, A, links p pivoted at one end upon the front-wheel shaft and extending at an angle to the front fork to which they are pivotally connected at their opposite ends, shoulders upon the front-fork near the links, and springs confined between the said shoulders and links, substantially as and for the purpose set forth.

6—In a velocipede, the combination with the seat-supporting frame, of a front-fork, A, links, p, pivoted at one end upon the front-wheel shaft and extending at an angle to the front-fork to which they are pivotally connected at their opposite ends, shoulders upon the front-fork above the links, springs confined between the said shoulders and links, and rods provided with suitable stops and extending between the links and shoulders and operating to limit the extent of rise of the shoulders from the front-wheel shaft, substantially as and for the purpose set forth.

7—In a velocipede, the combination with the pedal shaft, and drive-wheel, loosely mounted thereon, of intermittent-grip driving-mechanism between the said shaft and drive-wheel, operating to release the drive-wheel from the shaft when the pedals are at rest, and to grip the said wheel by working the pedals in either direction, substantially as described.

8—In a velocipede, the combination with the pedal-shaft, of an independently revoluble drive-wheel thereon having a laterally extending rim provided with an annular inner surface, k^1, a cam rigid upon the shaft bounded by the surface k^1 and formed with one or more hollows in its face having sloping sides, and one or more loose grippers interposed between the cam and surface k^1 in the said hollows, and normally out of frictional contact with the said surface, and forced into frictional

Boult's Improvements in Velocipedes.

contact therewith by movement of the cam in either direction of working the pedals, substantially as described.

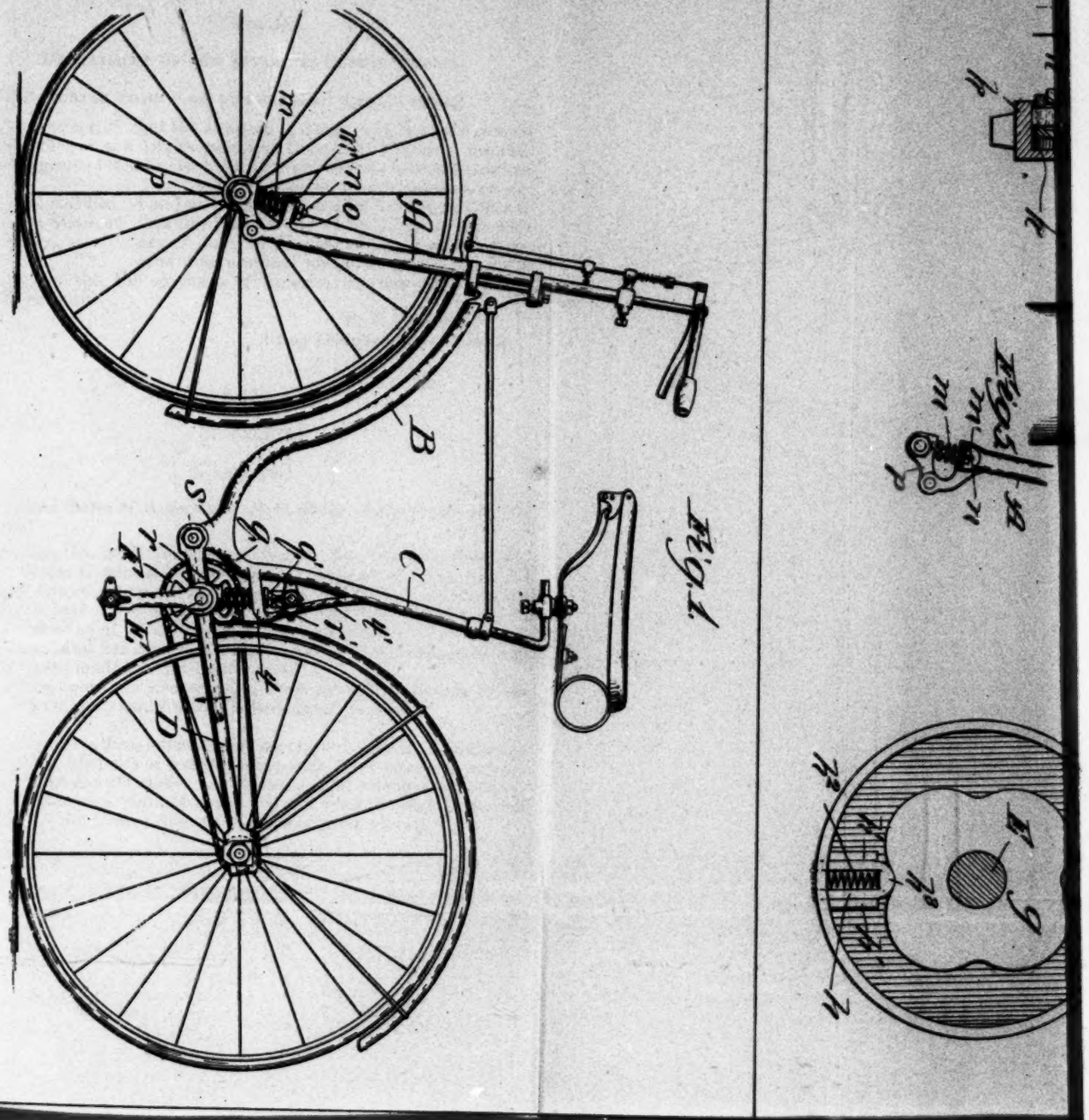
9—In a velocipede, the combination with the pedal-shaft, of an independently revoluble drive-wheel thereon having a laterally extending rim provided with an annular inner surface k^1, a cam rigid upon the shaft bounded by the surface k^1 and formed with one or more hollows in its face having sloping sides, a wheel, l, loose upon the shaft and interposed between the cam and drive-wheel, and one or more spring actuated sliding blocks h supported in guides upon the wheel l between the cam and surface k^1, and maintained by their springs normally in the hollows of the cam face, out of frictional contact with the surface k^1, and forced against the resistance of their springs into frictional contact with the said surface by movement of the cam in either direction of working the pedals, substantially as described.

Dated this 12th day of January 1890.

W. P. THOMPSON & BOULT,
Agents for the Applicant.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.
(G. 7386—100—8/1903.

(3rd Edition) SHEET 1.



[This Drawing is a reproduction of the Original, on a reduced scale.]

(2 SHEETS) SHEET 2.

Fig. 2.

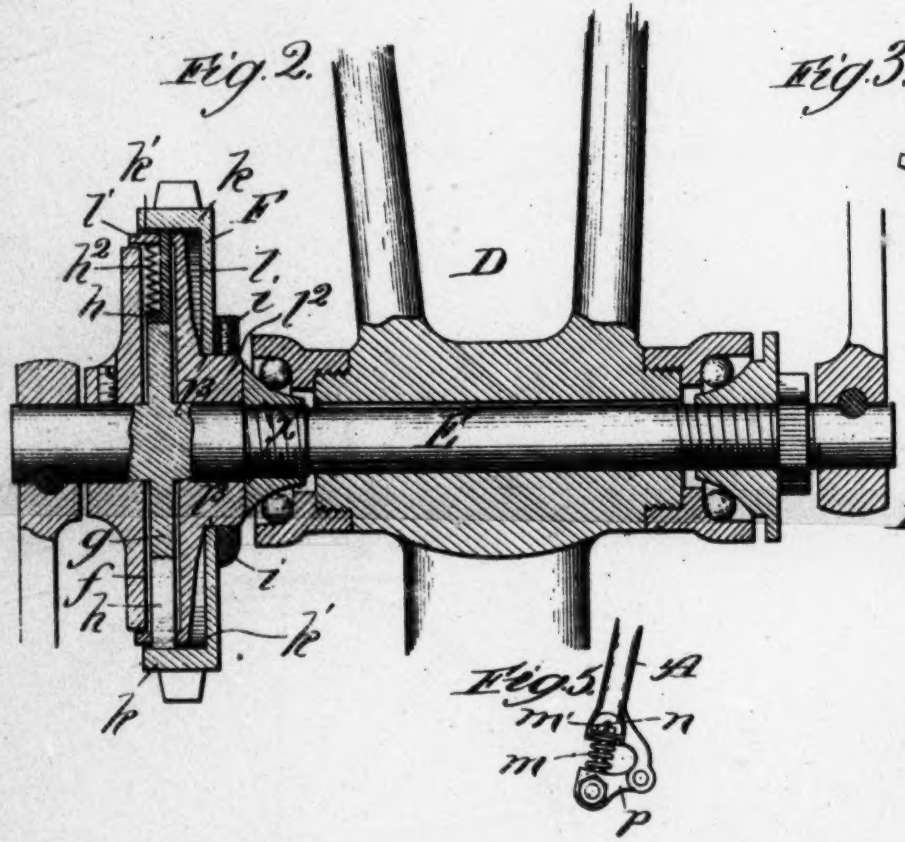


Fig. 3.

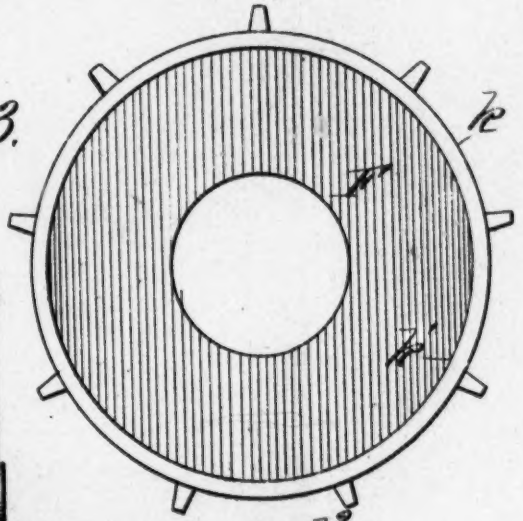


Fig. 4.

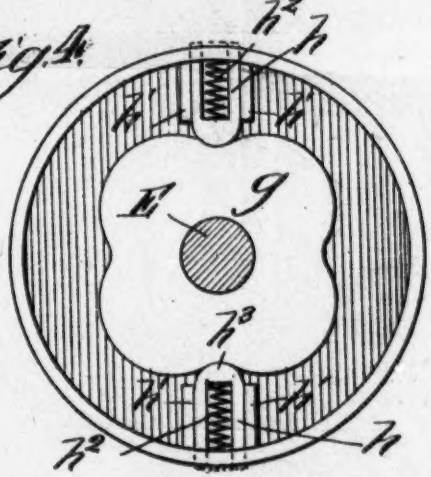
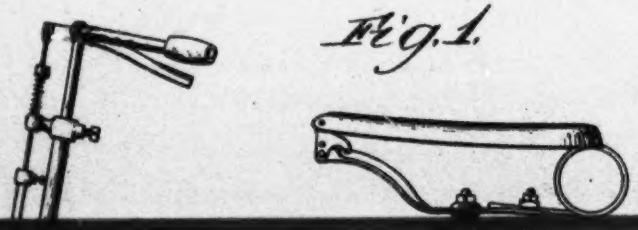


Fig. 5.

SHEET 1.

Fig. 1.



500 2–389.

UNITED STATES OF AMERICA,

[Vignette.]

DEPARTMENT OF THE INTERIOR, PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of the letters patent of George E. Whitney, number 527,571, granted October 16, 1894, for improvement in bicycle-brakes.

Seal Patent Office, United States of America.

In testimony whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the city of Washington this 30th day of June, in the year of our Lord one thousand nine hundred and three and of the Independence of the United States of America the one hundred and twenty-seventh.

E. B. MOORE,
Acting Commissioner of Patents.

500*a* 2–155.

No. 527,571.

[Vignette.]

The United States of America to all to whom these presents shall come:

Whereas, George E. Whitney, of Boston, Massachusetts, has presented to the Commissioner of Patents a petition praying for the grant of letters patent for an alleged new and useful improvement in bicycle-brakes a description of which invention is contained in the specification of which a copy is hereunto annexed and made a part hereof, and has complied with the various requirements of law in such cases made and provided; and

Whereas upon due examination made the said claimant is adjudged to be justly entitled to a patent under the law.

Now therefore these letters patent are to grant unto the said George E. Whitney, his heirs or assigns for the term of seventeen years from the sixteenth day of October, one thousand eight hundred and ninety-four, the exclusive right to make, use and vend the said invention throughout the United States and the territories thereof.

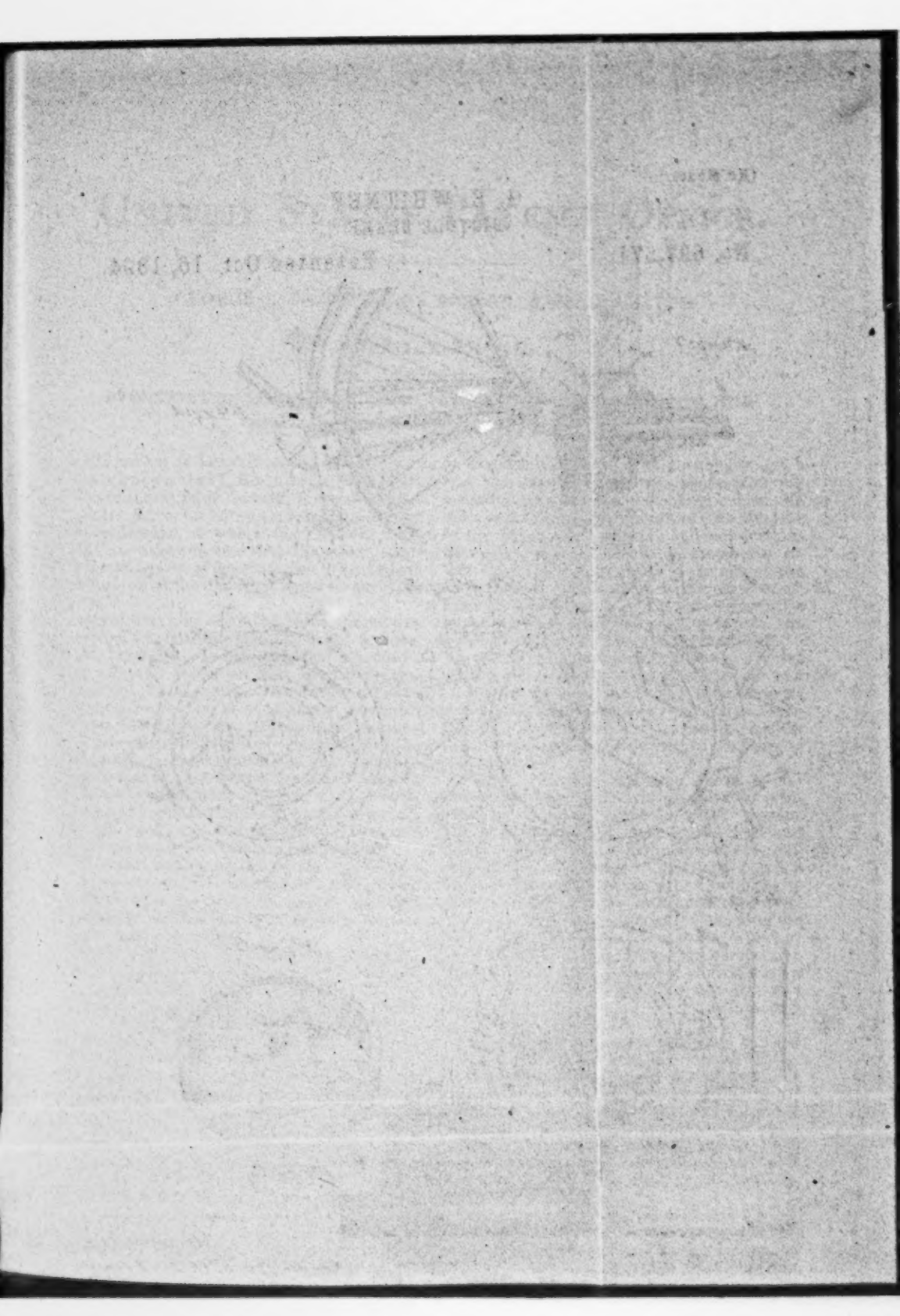
Seal Patent Office, United States of America.

In testimony whereof I have hereunto set m hand and caused the seal of the Patent Office t be affixed at the city of Washington this si teenth day of October, in the year of our Lor one thousand eight hundred and ninety-fou and of the Independence of the United States of America the on hundred and nineteenth.

JNO. M. REYNOLDS,
Assistant Secretary of the Interior.

Countersigned:

JOHN S. SEYMOUR,
Commissioner of Patents.



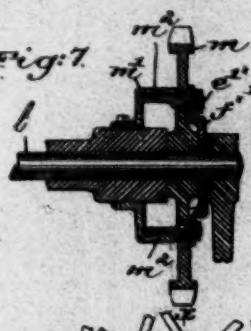
(No Model.)

G. E. WHITNEY

BICYCLE BRAKE.

No. 527,571. Patented Oct. 16, 1894.

Fig: 7.



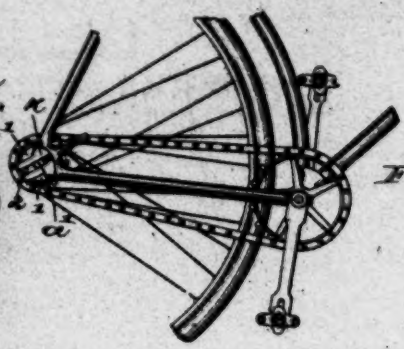


Fig: 1.

Fig: 2.

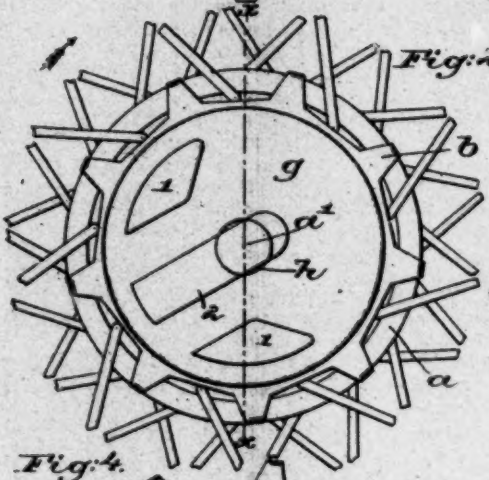


Fig: 3.

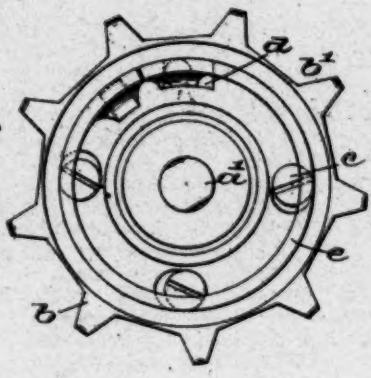


Fig: 4.

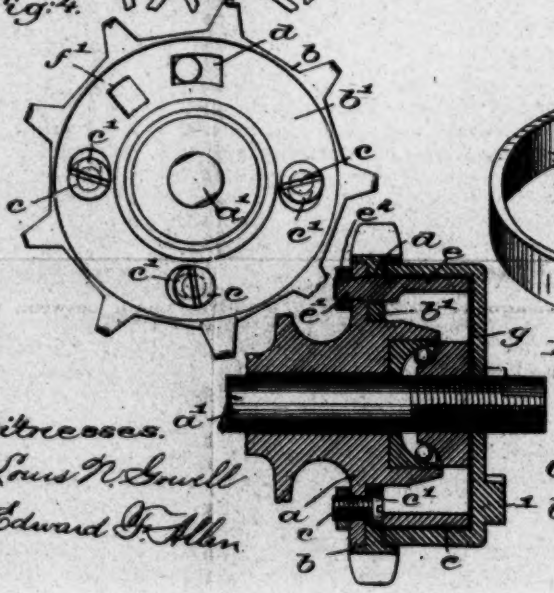


Fig: 5.

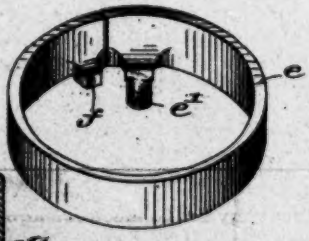


Fig: 6.

Witnesses.
Louis N. Snell
Edward F. Allen

Inventor.
George E. Whitney
by Crosby & Gregory
Attys.

UNITED STATES PATENT OFFICE.

GEORGE E. WHITNEY, OF BOSTON, MASSACHUSETTS.

BICYCLE-BRAKE.

SPECIFICATION forming part of Letters Patent No. 527,571, dated October 16, 1894.

Application filed October 3, 1892. Serial No. 447,848. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. WHITNEY, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Bicycle-Brakes, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

Bicycles as now commonly constructed are provided with various forms of brake devices, including usually as a part thereof a concave shoe adapted to be pressed against the periphery of the wheel tire. This class of brake in practice must be very carefully managed, and applied slowly and gradually, or the shoe will tear off small pieces of material from the tread surface of the rubber tire, and this tendency to tear or destroy the tire is greater with pneumatic than with common rubber tires, for the pneumatic tire is comparatively thin, and its rapid destruction necessitates frequent renewal, which is very expensive.

The destructive action of the brake now in vogue is so well understood that many riders remove the brake altogether, and rely upon their skill and quickness to stop suddenly when necessary.

In my studies to overcome the objectionable features of the class of brake referred to, I was obliged, because of the lightness of the stock in pneumatic tires, to use some other portion of the wheel upon which to apply resistance and effect the stopping of the wheel, and I devised for this purpose a brake to co-operate with a part of the hub of the wheel, said brake comprehending two surfaces, one of which may be made to clutch the other, the form in which I have herein chosen to embody my brake mechanism, consisting of a part rotating with the wheel and a part connected with or restrained from rotation by the frame. I have placed said movable part under the control of the rider through what may be designated slight "back pedaling," the movable part of the clutch by such action being pressed closely to the stationary part, whereas during "forward pedaling" said parts for the best results should not touch each other.

My invention therefore consists essentially in the combination in a bicycle or the like, of a brake composed of a stationary and a ring-like movable rotative member having separate ends, one member being concentric with and normally inoperative with relation to the other, with a pedal, and connections between it and said movable member to rotate it and also at times to move one of the ends thereof with relation to the other to effect the engagement of the two concentric brake members through back pressure on the pedals, substantially as will be described.

I wish it to be understood that, while I have shown my improved brake as applied to a bicycle, and have used the term bicycle throughout the specification and claims, I consider its application to tricycles or similar vehicles as coming clearly within the scope of my invention.

Figure 1, in side elevation, shows a portion of the frame and driving wheel of a bicycle, with my invention applied thereto. Fig. 2 is a detached view of the hub and sprocket wheel or gear with the inclosing stationary clutch member in position; Fig. 3, a similar view with said member removed to show the movable clutch member of the brake; Fig. 4, a detail in side elevation showing the hub of the wheel with the sprocket wheel or gear attached thereto. Fig. 5 is a perspective view of the movable member constituting a part of the brake. Fig. 6, is a section taken on the line *x*—*x*, Fig. 2. Fig. 7 is a modification to be described.

I have herein shown my invention applied to a bicycle of the so-called "safety" type, in which the driving wheel is actuated by a link or other suitable belt engaging usual gears on the pedal shaft and driving wheel respectively, but this invention is not limited to the use of a link or chain between the pedal shaft and the wheel hub, as instead I may employ any other usual equivalent connections.

In the form in which I have chosen to illustrate my invention in Figs. 1 to 6, the hub *a* of the driving wheel has a sprocket wheel or gear *b* attached thereto loosely, the connection shown being by suitable screws *c*, the shanks of which pass through slots *c'*, see dotted lines Fig. 4, in the web *b'* of said gear and into the face of the wheel hub, such slots enabling the gear to have a slight movement

relative to the hub, the screw heads preferably resting in countersunk portions of the web b'.

As best shown in Fig. 4, I have provided the web with a slot d, through which is extended a threaded shank e' see Figs. 5 and 6 attached to or forming part of a split ring or band e, constituting the rotative or moving clutch member, shown separately in Fig. 5, the said shank extending through the slot into the hub a, and being secured, as herein shown, by a nut e^2. See Fig. 6. When the nut is screwed up snugly, one end of the ring e will be rigidly secured to the hub, see Figs. 3 and 6, the said gear being free to move slightly with relation to the ring and hub by reason of the slots c' and d. The other end of the ring e is connected with and to be moved by the gear, and I have herein shown a lug or ear f projecting from the ring and adapted to enter a hole or recess f' in the gear, though it is obvious that any positive connection between the free end of the ring and the gear would come within the scope of my invention.

The stationary member g of the clutch is represented in Figs. 2 and 6 as a cap or shell, the cap being held in position outside of the ring, as shown, there being normally a slight space between the adjacent surfaces of the cap and ring.

The cap or shell has an opening h in its end for the reception of the usual axle a', and suitable projections 1, 2, between which the forked end k of the frame is extended, thereby preventing the cap from rotating.

In operation, the wheel being rotated in the direction of the arrow Fig. 2, the gear will be drawn into the position shown in Figs. 3 and 4, with relation to the hub, and the ring will be compressed, and so long as the power is applied or the pedaling is such as to turn the wheel in such forward direction, the ring will be maintained contracted and free from contact with the interior of said cap or shell. Whenever it is desired to apply the brake, however, a slight back pressure, sometimes back-pedaling, is put upon the pedals, acting as a drag upon the forward movement of the gear b, which will slip with relation to the hub, the latter being carried forward by its momentum, and the two ends of the ring will be separated, it being remembered that one end thereof is attached to the hub and the other to the gear. This expansion of the ring will force it into contact with the inner surface of the stationary member g, to thereby constitute a friction clutch, which will act at once as a brake upon the wheel. The friction will be regulated by the amount of back-pressure exerted upon the gear through the pedals, as described. It will be seen that by the use of a friction clutch brake, as herein described, the operation of the same is entirely under the control of the rider at all times and through the pedals, so that the brake can be applied instantaneously and with any required degree of force, without any change of position on the part of the rider. The movable member e is normally contracted by its own elasticity, so that it is never expanded unless by a retrograde movement of the gear with relation to the hub, but in addition to its own contractile force it is positively maintained contracted during the forward rotation of the gear in running, as described. The stationary member g not only serves as one member of the clutch, but as a dust cap for the other parts of the clutch and the wheel bearing.

This invention is not limited to the movable member working expansively against the interior of the stationary member, for the converse, viz:—the movable member to grasp externally the stationary member concentric to the center of rotation of the wheel, or it might be of the pedal shaft, comes within the scope of this invention.

In Fig. 7 I have shown in section a modification of my invention in which the brake mechanism is made to co-operate directly with the pedal shaft, the pedal shaft l having a gear m loose thereon between the shaft bearing and the pedal crank, the stationary member m' of the brake similar to the member g, being fixed to a part of the frame-work. The movable member m^3 is attached at one end to the gear and by a threaded shank $e'^{\times}$, see Fig. 7 at the other end to a flange $f^{\times}$ rotating with the shaft, and is similar to ring e, the shank $e'^{\times}$ corresponding to the shank e' of said ring e said flange and gear being connected by a series of slots and pins, similar to the connection shown in Figs. 2 and 3, whereby the gear has a slight movement relative to the flange. Back pressure upon the pedal will tend to retard the shaft and flange, the gear moving ahead by its momentum, and the movable member m^3 is expanded to contact with the stationary member m' and act as a brake upon the shaft.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a bicycle, the following instrumentalities, viz:—a pedal shaft; pedals to rotate it, a wheel axle, a drive wheel thereon; a clutch brake composed of a stationary member having a cylindrical friction surface, and a ring like rotative movable member having separated ends and normally out of contact with the cylindrical friction surface of said stationary member; one of said members inclosing the other and connections between said pedal shaft and the hub of said drive wheel to rotate the drive wheel and ring-like member in its forward direction and adapted by back-pedaling or pressure as described to move the ends of the ring like member with relation to each other and thereby effect the pressing together of said concentric members, to operate as a friction brake, substantially as described.

2. In a bicycle or the like, a brake composed

of a stationary and a ring-like movable rotative member having separated ends, one member being concentric with and normally inoperative with relation to the other, combined with a pedal, and connections between it and said movable member to rotate it and also at times to move one of the ends thereof with relation to the other to effect the engagement of the two concentric brake members through back pressure on the pedals, substantially as described.

3. In a bicycle or the like, a brake composed of a stationary member, and a movable rotative member consisting of a split ring, one member being concentric with the other, combined with a pedal, and connections between it and the movable member to rotate it and also to move it into abnormal position to effect its engagement with the stationary member by back pressure on the pedal, substantially as described.

4. In a bicycle or the like, a rotatable hub, a brake composed of a stationary member, and a movable member consisting of an expansible ring secured at or near one end to said hub, combined with a pedal, connections between it and the other end of the movable brake member to normally rotate it and the hub, and also to move the ends of the ring with relation to each other to effect its engagement with the stationary member by back pressure upon the pedal, substantially as described.

5. In a bicycle, a cylindrical brake surface fixed with relation to the frame-work, a cooperating rotative split ring normally out of contact and concentric with the said stationary surface, a gear mounted loosely upon its shaft to permit a slight retrograde movement and secured to one end of and to rotate said split ring, rigid connections between said shaft and the other end of said split ring, a pedal shaft, and pedals, and devices intermediate the pedal shaft and gear to retard or retrograde said gear upon its shaft when the brake is to be applied, to thereby move one end and change the size of said split ring and press it into abnormal position against the stationary cylindrical member, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE R. WHITNEY.

Witnesses:
JOHN C. EDWARDS,
A. E. DEAN.

501 DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the bound volumes of the library of this office of the provisional and complete specifications and drawings in the matter of the English letters patent to John Watkins, February 29, 1884, number 4169, for improvements in foot brakes for bicycles, tricycles and other velocipedes.

In testimony whereof, I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the city of [SEAL.] Washington this 2nd day of July, in the year of our Lord one thousand nine hundred and one and of the Independence of the United States of America the one hundred and twenty-fifth.

F. I. ALLEN,
Commissioner of Patents.

[Third Edition.]

A.D. 1884, 29th FEBRUARY. N° 4169.

Improvements in Foot Brakes for Bicycles, Tricycles, and other Velocipedes.

PROVISIONAL SPECIFICATION.

I JOHN WATKINS of 8 Havelock Road Saltley Birmingham in the County of Warwick Engineer do hereby declare the nature of my Invention for "IMPROVEMENTS IN FOOT BRAKES FOR BICYCLES TRICYCLES AND OTHER VELOCIPEDES" to be as follows:—

My said Invention for Improvements in Foot Brakes Consists in Providing additional Brake Power upon the Axles of Bicycles Tricycles and other Velocipedes Subject to the Control of the Riders Foot Acting at Will upon the Pedals and Cranks; which said Pedals and Cranks I substitute for Brake Levers to put on the Brake and Whereby the said Brake Power is Brought instantly into Requisition by the application of the Riders Foot being firmly Pressed upon the Pedals he instantly Checks the Revolution of the Cranks which thereby puts on the Brakes—and arrests the High Running Speed of the Machine when Descending Hills Gradients or otherwise upon Level Roads—I therefore Create Frictional Bearings upon the Axle in Connexion with the Hubbs or Wheel Plates of A Bicycle Tricycle or other Velocipede and the said Bearings I make Either Conical or otherwise or by Compressing the inner and outer faces of the Hubbs or Wheel Plates Betwen Corresponding Moveable Pressure Bearings made to fitt and Slide Easily Lengthwise upon the Axle the Said Frictional or Pressure Bearings thus created upon which and Betwen "the Wheel Revolves when Tightly Compressed—thus Provide Sufficient Friction for Brake Power and by the Riders Foot being Firmly Pressed upon the Pedals—the Cranks are held Stationary while the Wheel Revolves or Travels with full force of Brake Power thus applied to stop the Machine the Wheel of A Bicycle I mount to Revolve upon the Axle in Liew of the said Wheel being Firmly Secured thereto by Keying soldering or otherwise as ordinarilly adopted and I affix Toothed Pinions upon the Axle into which fall Ratchet Catches Connected to the Hubb or Wheel Plates the said Wheel Plates being Driven by the Revolution of the Toothed Pinions upon the Axle or otherwise as Desired it will thus be seen and readily understood that the Nature of My Invention is to Create Frictional Intermediate Brake Bearings for Brake Purposes by substituting the Hubb or Wheel Plates for Frictional Surface Bearings and the Foot Pedals and Cranks I utilise as Brake Levers in order to put on the Brakes" and which also form A foot Rest for the Rider when the Brake is applied—or Released as before Described by me in My Prior Specification Dated 29 August 1883 and Numbered 4169.

JOHN WATKINS.

COMPLETE SPECIFICATION.

I, JOHN WATKINS of 8 Havelock Road, Saltley, Birmingham, in the County of Warwick, Engineer—do hereby declared the nature of said invention for "IMPROVEMENTS IN FOOT BRAKES FOR BICYCLES, TRICYCLES AND OTHER VELOCIPEDES" and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

My invention has reference to improvements in foot brakes and foot rests for Bicycles, Tricycles and other Velocipedes; and my said invention consists in providing means, whereby brake power can be applied at the will of the rider by means of the driving pedals, which are under the perfect control of the rider; and further the rider can use the pedals when required as a foot rest; that is to say, the cranks of the pedals either drive the machine, operate the brake expedients or allow the pedals to form a foot rest; so that in applying the brake power, the rider's foot on being firmly pressed upon the pedals (opposite to the direction of propulsion) instantly checks the revolutions of the cranks which thereby put on the brake, and arrests the high running speed of the machine when descending hills or other gradients; and upon level roads for stoppage or otherwise; this is produced by the frictional contact of fixed and movable parts or bearings constituting the axle and hub or hubs of the machine—The said bearings I make either conical or otherwise, or by compressing or by abrasion between the inner and outer faces of the hubs, frames or wheel plates or between other corresponding movable pressure bearings placed upon the axle all made to fit and slide easily or longitudinally upon the main axle—The friction thus created between the parts brought into immediate contact, provides sufficient friction for brake power, and further by the rider's foot being pressed upon the pedals the cranks are held stationary, while the wheel or wheels revolve or travel with full force, the impetus for which is applied through the brake expedients to stop or retard the motion of the machine.

In applying my invention, the wheel or wheels of a machine, I mount to revolve upon an axle of a bicycle instead of the wheel being rigidly affixed thereto as is ordinarily adopted; and I affix ratchet and pinion wheels upon the axle—The said pawls or catches engage with the teeth of the ratchet wheel in driving, but glide over them on applying brake power.

It will thus be seen that the nature of the invention is to create additional intermediate brake bearing upon fixed and movable parts of the combined hub and axle—The pedal levers or cranks are therefore utilized as propellers, brake levers and foot rests.

I will now proceed to describe with reference to the accompanying Drawings the manner in which my invention is to be performed:—

Figure 1 represents a front elevation, and figure 2 a complete longitudinal vertical section of a bicycle hub, nave or wheel centre and cranks constructed according to my invention and figure 2^A the parts separately—Figure 3 is an end elevation of figure 1, and figure 4 is the same with the end plate removed for exhibiting the ratchet or driving pinion wheel, and pawl arrangement, which constitutes the mechanism by which the machine is driven—the sides A and B have ratchet wheels with teeth in the reverse way for the proper driving of the two ends of the hub, nave or wheel centre. Figure 5 shows an end elevation with a portion of the wheel centre, exhibiting the stop arrangement, which limits the amount of binding power that shall be applied in operating the brake.

The same letters of reference indicate the same parts in the several figures of the Drawings.

a is the main axle or spindle passing from end to end of the wheel centre; this central axle or spindle is provided at one end with an angular or square part a^2, and at the other end with a screwed part a^3; and upon the axle or spindle a the hub sleeve b is situated, and capable of moving upon the said spindle longitudinally. The hub sleeve b has bosses b^2 b^2 at its ends, and at the A end of the wheel centre the hub sleeve has a neck upon which the hub c freely rotates in a forward direction while the hub c on the B side of the wheel centre also rotates freely upon its bearing a^4. d d are bearing necks (or bosses) which move with the spindle a and are capable of sliding longitudinally thereon. These sliding bearings are provided respectively at their inner ends, with ratchet toothed pinion wheels d^2, d^2 which engage with pawl c^2 c^2, carried by the hub c c as seen in figure 4—Springs c^3 c^3 always keep the pawls upon the teeth of the said ratchet pinion wheels—e is a crank arm upon the a side of the wheel centre which fits upon and turns with the axle a, while f is the other crank arm fixed upon or made in one piece with the intermediate roller bearing d. This said intermediate roller bearing is screwed internally, and takes upon the worm a^3 of the axle a—g is a regulator of brake pressure by the screwing up of which, more or less brake contact can be given. It also serves the purpose for adjusting and bringing together the parts reduced by wear. On the B side of the machine is another boss h, which takes upon a square neck a^5, and is fixed by a nut i screwed on the end of the spindle or axis a. The boss h has upon its inner face a stop h^2 for limiting the bringing together of the frictional bearing parts when the brake is operated upon; that is to say, too much brake power cannot be applied from the fact that the crank arm can only make one half revolution or thereabouts, and consequently the bringing together the movable pressure bearings or parts necessary to effect the frictional contact is thus limited—Instead of the stop h a quadrant slot may be cut in the boss, in which a peg stud on the crank takes and works therein or otherwise.

Plates j, j are affixed on the outer faces of the hubs c, c, to exclude dirt or foreign matters from getting to the working parts—Leather or other facings k, k are interposed between the outer and inner faces of the hubs c, c, and the respective inner faces of the bosses b^2, b^2, and the ratchet wheels d^2, d^2, on the bosses d, d, and it is between these and other faces that the brake action is obtained; so that the hubs c c (in which the spokes of the wheel are tapped) become fixed and rotate alternately according to the direction the crank arms e e are moved by the pedals l l.

In driving the machine to which the hub centre constructed according to my invention is applied, the crank arms are moved forward in the direction indicated by the arrow figure 4, when the vertical fronts of the teeth of the ratchet wheel become engaged with the pawls c^2 c^2 carried by the hub or nave c, c, the result is, that the whole of the parts constituting the nave or wheel centre move together, the same as if the whole parts were rigidly connected together; thus the wheel is carried by the hub c c and is propelled forward according to the rate of motion which the rider applies by the pedals connected to the crank arms of the machine e f.

If the rider now requires to utilise the cranks and pedals as a foot rest in descending gradients or otherwise, it is only necessary for him to keep his foot upon the pedals stationary which allow the pawl c^2 to glide over the inclines of the teeth of the ratchet or pinion wheel d^2 and so break the driving connection, which allows the wheel to rotate freely and independently by its own velocity or momentum.

If the rider now requires to retard the velocity of the wheels or what is commonly known as putting on the brake, it is only necessary for him to gently press backward the screwed crank f by means of the pedals, when by such back motion, the internally screwed crank or bearing boss d which is rigid with the crank f, is made to advance upon the screw a^3 in the direction indicated by the arrow—figure 2, thereby bringing the inner and outer faces of the hubs c c, sleeve bosses b^2 b^2 and bearing bosses d d forcibly into contact with the leather or other

interposing facings *k* that is to say, during the time that the hub rings *c c* are carried forward by the wheel's rotation, the whole of the other parts which remain stationary are drawn longitudinally or laterally up to the bearing faces of the hub rings, thereby retarding the velocity of the wheel carried by the hub *c c*.

In order that the rotary and sliding fixed parts shall not be bound together too suddenly or too much at a time, a stop h^2 is arranged upon the boss *h*, so that in putting on the brake by back pedalling, or allowing the wheels to travel by their own momentum, there is no undue shock or sudden retardation.

Although I have described that the brake mechanism is operated by the crank arms, yet I wish it to be understood that the boss *d* on the B side of the hub centre may be rotated for putting on the brake by means of a lever worked by hand—The said lever stands in the same position with respect to the hollow screw boss *d* as the pedal arm *f* does.

When it is required to back treadle without putting on the brake, I arrange reversable catch mechanism and lever arrangement, as represented in figure 6, 7 and 8 of the Drawings which makes the axle of the wheel centre, rigid with the hub itself. In this modification the hub and hub sleeve is made in one piece and revolves directly upon the spindle.

Figure 7 represents in single section (or one piece only) "the following parts." *b b* are two wheel plates which carry the spokes and wheel. *c c* are the bearings around which the ball rollers rotate and and *d d* are two driving pinions which I employ in the manner hereinafter described. *e* a sleeve bush or socket which centrally connects together the wheel plates *b b*.

Firstly—I mount upon the axle of a bicycle the said combined parts to revolve freely thereon and slide easily in the end direction of the axle lengthwise and upon the bearing of the axle *a*. I place one of the cranks *f* which is made to fit and slide along its square bearing, by the pressure of a lock nut screwed on the axle and which also secures the said crank *f* thereto the other crank *g* is screwed internally, the said crank being screwed upon the screw made on the axle *a*. The inner faces or bearings of the two cranks *f* and *g* I made concave or otherwise to exactly correspond with the two outer faces or bearings of the driving pinions *d d*.

Secondly when the said combined parts are mounted upon the axle *a* then the two cranks before mentioned are placed upon their respective bearings on the axle and thus form the shoulder or pressure bearings between which the said combined parts are working "and bearing" when the same are revolving upon the axle," the said parts being driven when treadling by the two reversable driving catches or pawls *h* which are connected to the arms of the cranks *f*. *g* and employed for driving the two pinions *d d*, precisely in the same manner as the wheel plates *b b* as seen in figure 2. Having explained the construction of the parts in figure 6, I proceed to further explain the manner of applying, regulating and releasing brake power. When the rider has approached an incline he may by the slightest pressure of the foot upon the pedal *f*. stops the rotation of the cranks and rest both feet upon the pedals which form foot rests then to apply the brake by simply holding the unscrewed crank on bottom centre, with one foot; the rider can with the other foot gently press backwards the top central pedal, which puts on the brake; and by lightly lifting the foot the screwed pedal will rise back to top centre again, being thus driven to its centre line by the pressure of the revolving pinion bearing against the inner fixed bearing of the screwed crank *g* it will thus be seen that brake bearings are created in the manner explained, instead of using the frictional surface bearings of the nave or wheel plates when desirable to do so.

Having explained my invention and the manner in which the same is to be performed, I wish it to be understood that I do not strictly confine myself to the precise details herein described and illustrated as the same may be varied without departing from the nature of my invention; and further the back pedalling I place upon the pedal stud, or otherwise make the same hollow, through which said stud I pass a pin long enough to attach thereto small wheels or levers which work by

the side of the pedals; and by the rider simply sliding his foot backward or forward upon the said wheels or levers thus imparts motion to the driving catch or pawl connected to the cranks as seen in figure 6.

Although I have described my invention as applied to a bicycle, yet I wish it to be understood that my invention is equally applicable to tricycles and other velocipedes.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is

First. Constructing and arranging the parts of the hubs or wheel centres of foot brakes for bicycles, tricycles and other velocipedes hereinbefore described and illustrated in figures 1, 2 2^A 3, 4 and 5 of the accompanying Drawings, whereby brake power is applied by means of the pedals carried by the crank arms, on the said crank arms, acting in one direction, and when moved in the reverse direction, the machine is driven in the ordinary way, while an intermediate position between applying brake and driving provides a footrest for the driver, the several parts being arranged and operating substantially in the manner herein described and set forth.

Secondly. The improvements in foot brakes for bicycles, tricycles and other velocipedes hereinbefore described and illustrated in the accompanying Drawings; that is to say, providing brake mechanism or brake expedients within wheel hubs, or wheel centres which are operated or brought into use by the pedals, carried by the crank arms; the action in one direction puts on the brake by bringing together longitudinally the stationary and movable segmental parts composing the wheel centre, and the action in the other direction drives the machine, while a foot rest is provided on the crank axis remaining quiescent, the parts being arranged, combined and acting in the way and for the purposes as described and set forth.

Thirdly. Constructing wheel centres composed or built up of segmental parts, provided with foot brake and driving mechanism for the purposes as described and set forth in figures 1, 2, 2^A 3 4 and 5 of the Drawings also the stop arrangement marked h^2.

Fourthly. The arrangement described and set forth in figures 6. 7. and 8 of the accompanying Drawings; in which the hub and hub sleeve of foot brakes are made in one piece, and revolves directly upon the axle or spindle, the parts being drawn together longitudinally by the worm on the end of the said spindle, for putting on the brake also the arrangement for driving wheel centres backward or forward by means of catches (carried by crank arms) and toothed wheels the parts being arranged and combined substantially as described and set forth.

Dated this twenty eighth day of November 1884.

JOHN WATKINS.

By Henry Skerrett,
6, Livery Street, Birmingham,
Agent to the Applicant.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.
[G. 7386—100—8/1903.]

A.D. 1884. Feb. 29. N° 4139.
WATKIN'S Complete Specification.

(2nd Edition)

4 SHEETS
SHEET 1.

FIG. 1.

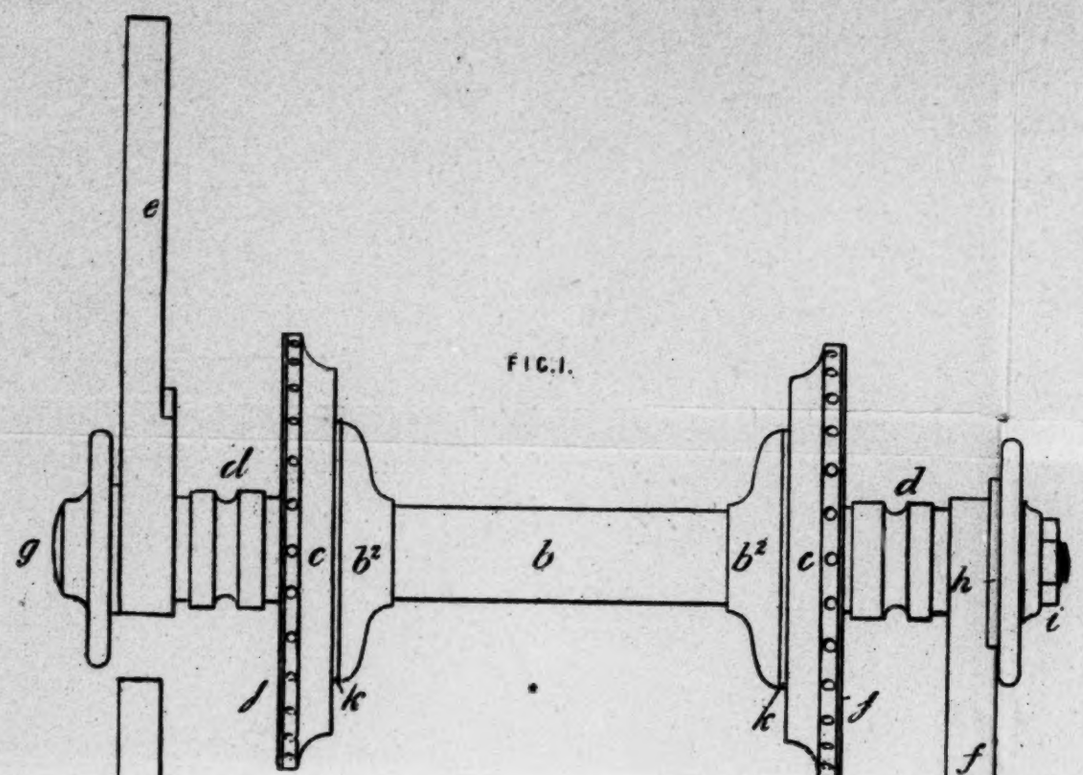
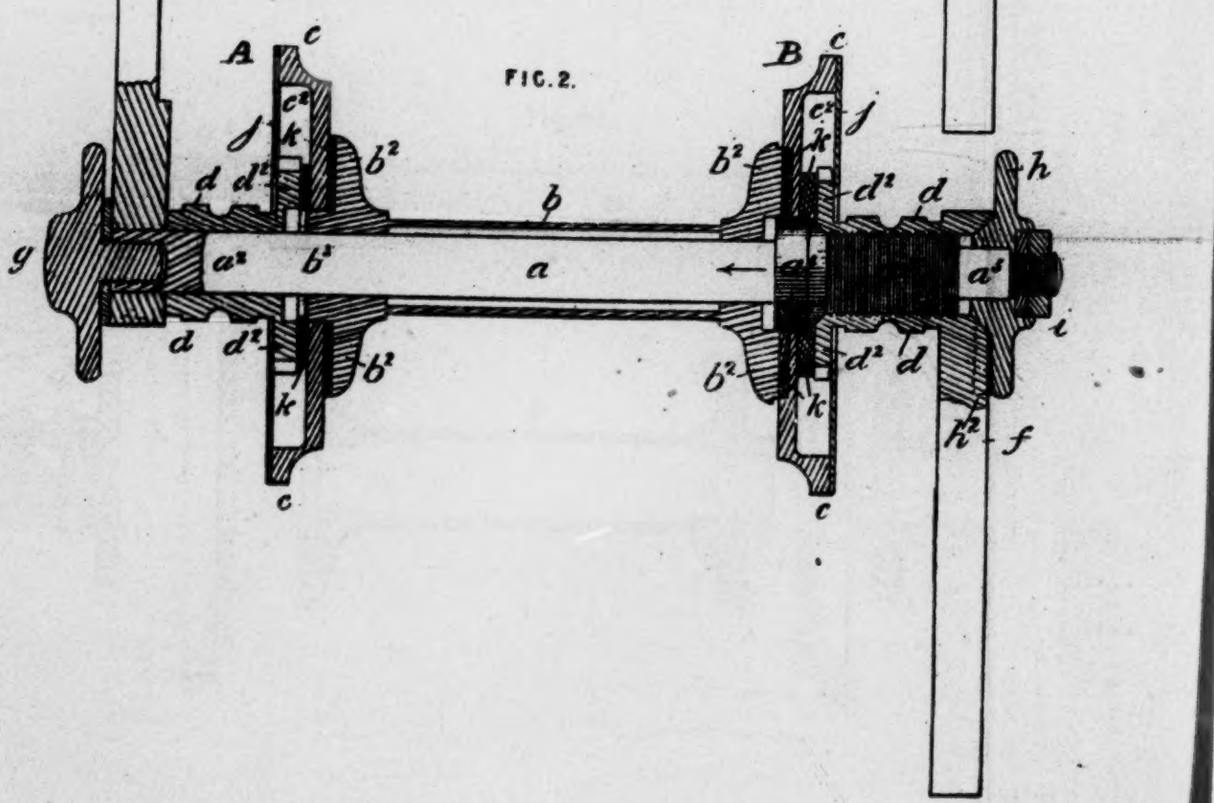
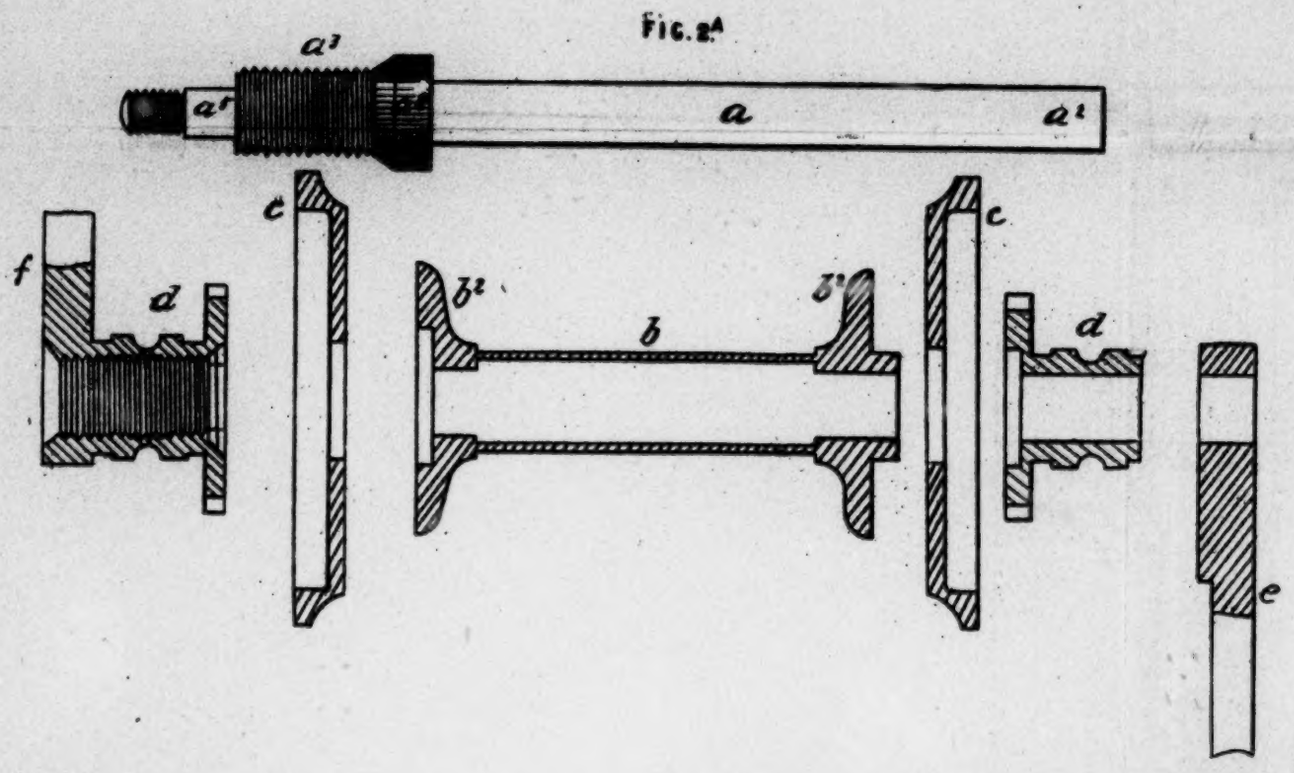


FIG. 2.



(2nd Edition)

Fig. 2.



(2nd Edition)

FIG. 3.

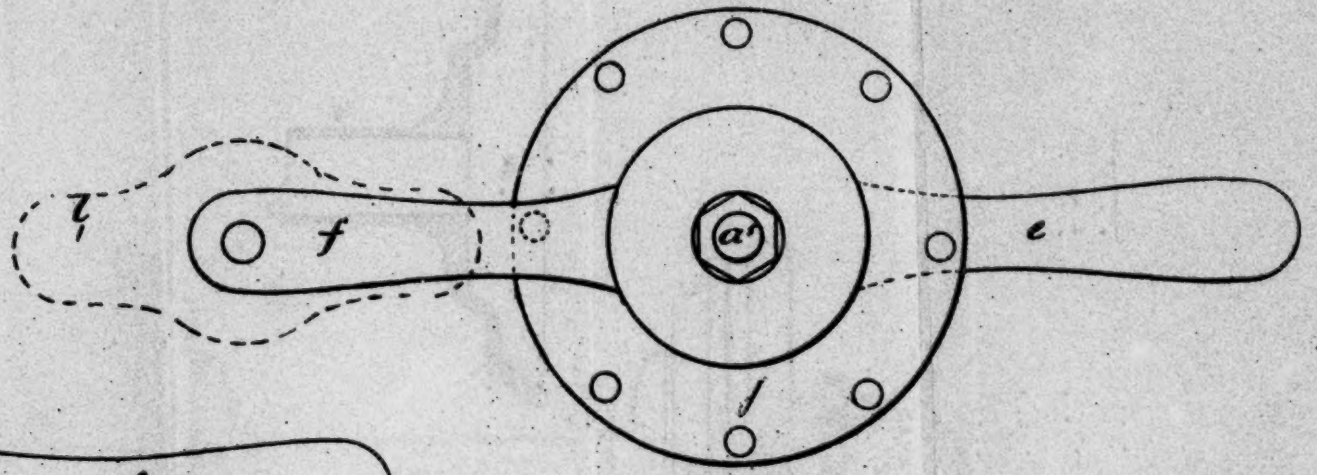


FIG. 5.

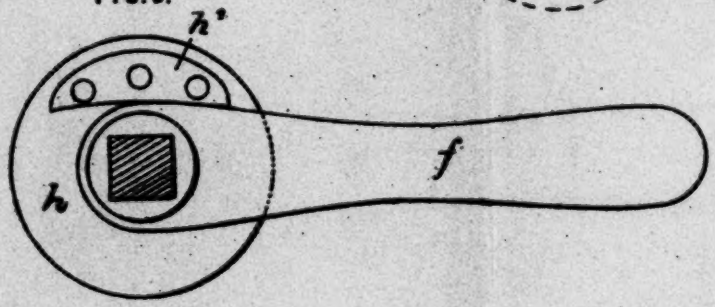


FIG. 4.

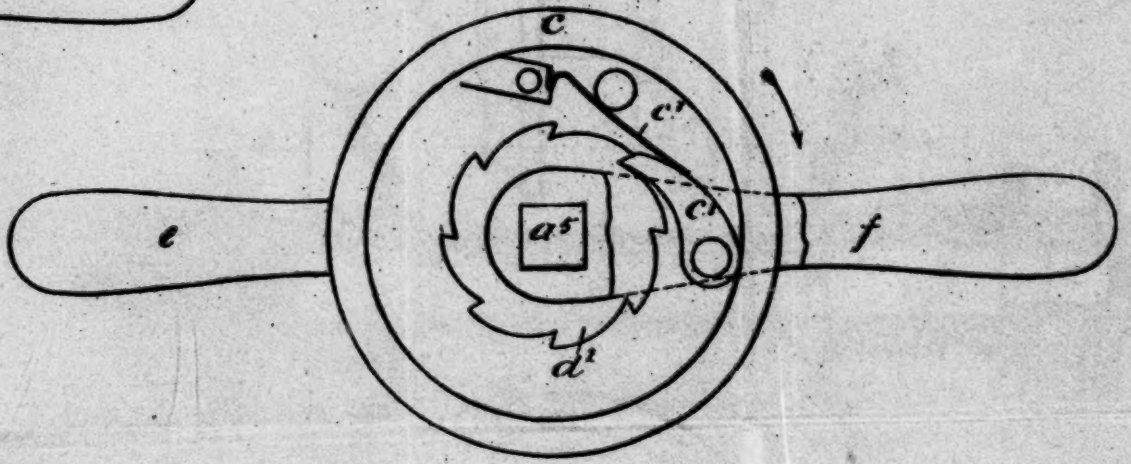
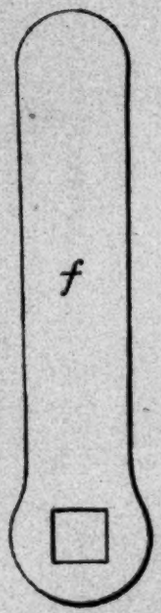


FIG. 6.



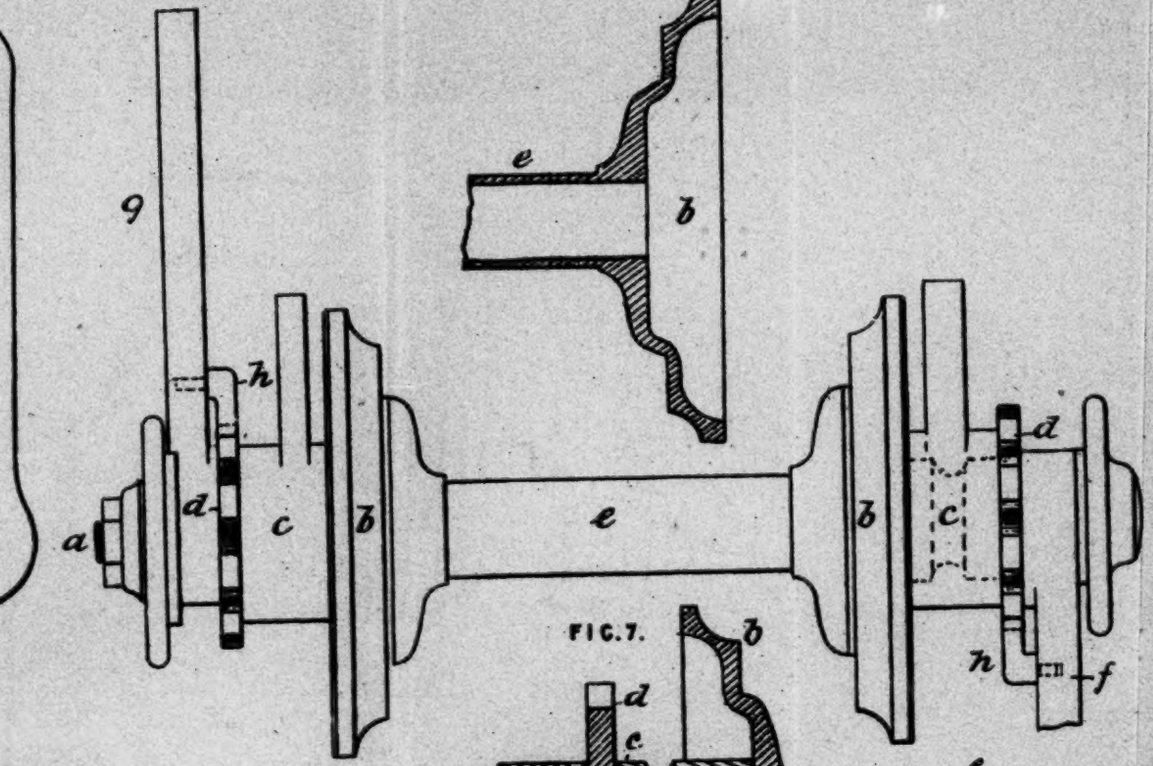
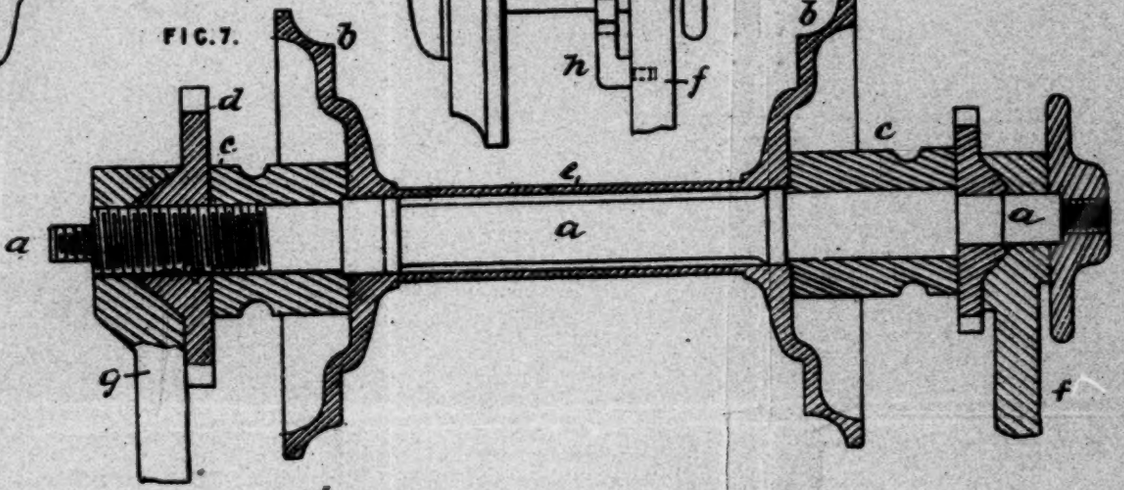
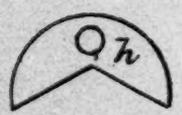


FIG. 8.

FIG. 7.





Exceptions to Auditor's Report.

Filed June 2, 1902.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW, Complainant,
vs.
THE ECLIPSE BICYCLE CO., Defendant. } Equity. #19095.

The claimant, Willard M. Farrow, prays leave to except to the report of the auditor of this court filed in this cause on the — day of May 1902, upon the following grounds, to wit:

First. That the auditor has misconstrued the order of reference and the basis thereof, said report setting forth on pages five and six as follows:

"Taking the rule from all the cases in which the authority or duty of the auditor, or master, to inquire into the similarity, or otherwise of a new device, as compared with the particular device before the court at the time the decree is sustained, I find that the so-called new device must be substantially the same as that which was before the court. Applying that rule in this case, I must find that Exhibit E–10 is substantially the same as the device described in the claims set forth in the application numbered 600,359, before I can require the defendant to account for the sale of the device of which Exhibit E–10 is the type. In other words I must find in construction and operation Exhibit E–10, in its various parts
304 and combinations, is, at least, the mechanical equivalent of the claims set forth in the said application, that is, the parts and combinations of Exhibit E 10 must produce the same effect by substantially the same mode of operation. If in any of the substantial parts of the mechanism there is found in the claims of the Farrow application a substantial feature or part of the device which is not found in Exhibit E 10, such difference, in my judgment, deprives the auditor or master of further jurisdiction in the matter."

"Referring to the claims of the application No. 600,359 which were allowed by the Patent Office, the original numbers 6, 7, 8 and 9, and by the amended application being numbered 1, 2, 3 and 4, I find an expansive brake spring set forth as the basis of an important part of the several combinations and operations described in the claim."

"It is this expansible brake spring described in the Farrow claims and drawings which effect the breaking operation."

"In Exhibit E 10 there is no expansible brake spring, the breaking pressure being produced by a cone shaped brake which performs its work in a substantially different way from the Farrow brake spring. There is a radical difference *only* only in the con-

struction, but in the operation and one cannot be called the mechanical equivalent of the other."

Whereas the bill of complaint and the decree clearly show that upon said reference it is the duty of the auditor to ascertain
505 all devices manufactured by said defendant, embodying the inventions mentioned in the applications of Farrow, irrespective of the fact, whether the allowed claims of Farrow as set forth on his application cover the mechanism of any particular device or not; and when any of the said devices are covered by the description of back-pedalling brake and coaster devices as set forth in the two applications for patents filed by said Farrow, which were the subject matter of the contract between the parties to this suit, then the complainant is entitled to an accounting for such devices.

By reason of the foregoing decision of the auditor, the complainant has not secured an accounting from the defendant for all of the devices manufactured and sold by it as provided by the decree in this case he is justly entitled to.

WILLARD M. FARROW.
J. C. D.

HENRY M. EARLE,
JOHN C. GITTINGS,
Solicitors for Farrow.

506 *Opinion of Justice Hagner.*

Filed October 10, 1902.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
THE ECLIPSE BICYCLE COMPANY. } In Equity. No. 19095.

WASHINGTON, D. C.,
MONDAY, *August 4th*, 1902—2 o'clock p. m.

Opinion by Mr. Justice Hagner.

The case of Farrow *vs.* The Eclipse Bicycle Company comes before me upon exceptions by both parties to the report of the auditor filed here the 2nd of June last.

The complainant, Farrow, files one exception, which embraces simply the proposition that it was not proper the auditor, in his statement of the amount payable by way of royalties by the defendant to the complainant, under the agreement in evidence, should have refused to include any royalties chargeable upon inventions or patents of Morrow, in which the defendant company holds an interest, as distinguished from the devices or inventions of Farrow.

The reason given by the auditor for such refusal is that this in-

vention or device of Morrow is essentially different in principle, and in important respects as to construction, from any of the devices which had been invented by Farrow, and by him sold and transferred to the defendant company.

507 The first decree passed in the case declared that Farrow was entitled to royalties on all inventions or devices which he had made and turned over to the company, and also to royalties upon a particular device, No. 611,073, which was an alleged invention or patent taken out in the name of Morrow. That decree, passed by Justice Cole, was taken to the Court of Appeals, heard on a special order, and there affirmed; and the auditor was directed to go on with the account on the basis of that decree.

Then, before much progress had been made there, the defendant filed a petition asking leave to amend its answer. The petition averred that if the auditor proceeded with the account according to the direction of the decree, great injustice and wrong would be done to the defendant; first, because no money at all could be considered as properly due to the complainant, since the complainant's alleged inventions were really invasions of prior patents; and there being no originality in any of the complainant's so-called inventions, he had no right to claim against the defendant any redress for making the machines referred to, since the real merit lay with the prior inventors. Again, it was alleged, the complainant had no right in equity to recover anything, because the complainant had fraudulently concealed from the defendant his knowledge of this and other irregularities; and for that reason, also, it was claimed a court of equity ought not to proceed to the execution of the decree.

The petition also relied upon still another objection—that the complainant was setting up a right to derive royalties from
508 the last inventions of Morrow, particularly that covered by letters patent No. 611,073, which was entirely a new claim, only recently disclosed by complainant's counsel, and not made the subject of the suit originally. The defendant insisted it could not resist these various wrongful demands unless it had permission to amend its answer; and Justice Cole gave it permission to do so upon the payment of certain small sums of costs.

The case then, as before, was heard by the Court of Appeals on special appeal from this last order of Justice Cole. Neither appeal went there as of course; but the special appeals were allowed, upon the idea that by granting them time, trouble and expense might be saved. On this point the Court of Appeals made the very sensible observation that all these short-cuts, by way of appeals on interlocutory orders, are of very doubtful usefulness; that the idea that time and expense may be saved is more than doubtful, and that the better practice is to go on in the regular way.

The Court of Appeals, nevertheless, took cognizance of the order of Justice Cole allowing the amended answer to be filed; and they discussed the subject in a very thorough way, and declared that Justice Cole ought not to have granted the leave, as he was without authority according to equity practice, at that stage of the case, to

allow an amendment of the answer, since such leave is granted only in rare cases, and only upon a strong statement of facts, which did not appear in the case before them.

Then they proceeded to consider the statements of the peti-
509 tion, and found the charge that the complainant's device was not a real invention of his own was utterly unfounded; and that if there was anything wrong about the complainant's patent the defendant knew just as much about the improvements and the alleged antecedent patents as Farrow did. As to the alleged fraud through concealment by Farrow of any knowledge that he had on the point, the court said it was entirely incorrect; that the defendant company and their counsel must have known as much about the those matters as the complainant did.

To the argument that this device described in No. 611,073 was an entirely new invention, with a new crank or contrivance about the hub which had not been produced before, the court say if that was so, it did not disentitle Farrow from the receipt of his royalties on this new invention; and they practically describe the situation of the parties in this way: Farrow had certain applications pending in the Patent Office which would soon naturally have resulted in patents for this peculiar and valuable novelty in the construction of bicycles. While those applications were pending he had the right from time to time to amend them, since that is a thing that inventors constantly do. Any one who looks at a patent of any consequence will find, beside the description of the original patent, statements of sometimes five, ten, fifteen or twenty emendations of the original by the same man. As he works his machine he instructs himself more and more in labor-saving methods, and on these improvements he may get a number of patents. Now, they argue, if a man chooses to sell out his existing patents, he sells out the right on his part to make, thereafter, *in his own behalf*, new additions to his existing patents. He denies himself the
510 right to make future improvements in his own name or for his personal benefit, washes his hands of the whole thing, and says to the purchaser, "If you will give me an adequate consideration you can make such amendments as occur to you, just as I could have done before I sold to you. You are thenceforth, in this respect, to take my place." And the court say the man or the company that took his place had the same right to amend that the original inventor had; that they must have known such was the usage in respect to patents. Both parties were aware that these amendments were liable to be made, either by the original holder or the assignee, and when Farrow sold out his right he deprived himself of this valuable privilege of from time to time improving on his device, and turned it all over to the other person, who, however, was bound to allow Farrow the benefit of the improvements, as if they had been made by Farrow himself.

The Court of Appeals then sum up their views in one paragraph in 18th D. C. Reports, where the court say:

"It is our conclusion that the order of the supreme court of the

District of Columbia of October 22, 1900, whereby it allowed the cause to be reopened, the defendant's answer to be amended and further testimony to be taken, and from which the present appeal has been allowed, was made without authority of law, and that it should be reversed with costs; and that the cause should be remanded to that court with directions to proceed with the audit heretofore directed to be had, and for such other proceedings according to law as may be just and proper."

511 The case then went back to the auditor, and the parties began taking testimony; and soon the complainant commenced with his testimony as to the number of machines which this company has made as I understand on the pattern of Mr. Farrow's patent, No. 611,073, with this new device as illustrated by the exhibit of the defendant No. E–10.

As soon as that attempt was made the defendant objected that the complainant had no right to do this; that it was not within the reference; and after argument, and after examination of experts (two on behalf of the complainant and two on behalf of the defendant) the auditor refused to take cognizance of any of the receipts of the bicycle company from this particular patent which I have described as Morrow's last invention. The ground he gave for his ruling was (to place it in general words) that it was an essentially different affair; that the contrivances, which were very important and very valuable, were quite new; that Farrow had nothing to do with them, and that the hands of the defendant company were not so tied by this assignment that they were obliged to keep an account of the machines made under this new patent, and that all they were accountable to Farrow for was the machines made under the old patents of Farrow himself.

The auditor refers to one case which he says justifies him in taking into consideration the value of this improvement and exploring the mechanics of the subject to see whether or no it does so depart from the previous ones as to constitute, in fact, a different instrument. If it really does constitute an entirely different in-

512 strument, then I presume there would be no doubt it ought not to be included. The auditor holds that it really does that, and that it is something apart from the matter with which these parties were dealing in their agreement.

I have gone somewhat into that examination. There is something quite fascinating (particularly, I suppose, to those who do not understand it very well, when they are called to look into the subject) in these ingenious devices of clever men which contribute so much to the comfort of the world; and the matter has really been the subject of very considerable inquiry on my part, partly out of interest in it and partly for the reason that I wanted to feel I was really informed about the subject, and knew what I was talking about, and was not simply obliged to echo what other people said.

I have, after careful examination, come to the conclusion that the auditor, usually so correct and reliable, and one of the most valuable officers we have, erred in coming to that conclusion, and that accord-

ing to the meaning of these two opinions of the Court of Appeals (that in vol. 16 as well as that in vol. 18), Mr. Farrow was entitled to claim a royalty from this invention of which I have so often spoken, No. 611,073, as shown by Exhibit E–10, and this model which has been produced. He would have been in a rather deplorable predicament if it were not so; and the other side would have been in a position that Farrow never contemplated.

If you will look at any of the cases where Morse's patents were the subject of litigation, you will see his first patent bearing
513 a certain number. His inventions were novelties; there was not anything like them to be found elsewhere, as they said. Now, if you look in those patents (and they embrace small things as well as large ones), you will see the first invention bears a certain number and date, and following that you will find a whole row of amendments to the original, all the way down—sometimes at least twenty, I suppose. They were all invented by the same man, and he had a right to obtain the subsequent patents. But if he had sold the first patent to somebody else he would not have had a right to take out subsequent patents in his own name upon the original patent. He would have thrown that right away; and the man to whom he assigned the first patent would have had the right to go on and perfect the device by subsequent patents.

That is what Farrow did. For a valuable consideration he said, "You can have that invention. You can stand in my place. I will go on looking at this thing. If I make anything new you shall have the benefit of it." But he also in effect said: "If you make anything new you must pay me royalty on the new thing you make, just as you would pay me royalty on the old machine that I made, and which perhaps I would not be using now if I had not sold it. The chances are that I would have managed this thing in just the same way you did. And since you have done what you had a right to do, since you are in my place, you must continue to pay me on all these improvements."

Suppose patent No. 611,073 had been mentioned in the contract. Two or three six-hundred-thousands were mentioned, but No.
514 611,073 had no existence at the time. Then the defendant would say: "Yes; that is all right. We must pay you on all—not only on those you invented yourself, but on No. 611,073. But since that we have invented another one, No. 712,000, which is a better contrivance. The new machine is of a different metal. We change back and forth to save friction, and to get greater lightness. We make it of aluminum instead of heavy iron. And although we agreed to pay you a royalty on all the inventions you transferred to us, namely, on all those having a living existence at that time, and also on all that we have made up to the time you filed this bill, including No. 611,073, yet you are not entitled to royalty on *No. 712,000*, because we have invented that since."

What is the result? The defendant would say, "We will never make any more of these old devices at all. We have given them up. We are going to make them all on the order of No. 712,000, because

it is the best possible form." And then what is the predicament of Farrow?—never to get another cent, as long as he lives, from his own invention, which was the original of the entire device.

How can he? If the company is not going to use this device that he invented in the first place, who gets all the benefit? Why, this company which had the great boon of the use of Farrow's conception, with the power to engraft upon it whatever improvements their wits showed it was capable of being adapted to. And while Farrow stays without another cent, this other party walks off and takes the whole, indefinitely.

The Court of Appeals did not hesitate to say that that would be a fraud upon the contract. I am not here to decide whether
515 or not the Court of Appeals was right in its original decision or in its second decision, or in its third decision, when it refused to grant a reargument. That is for another court to decide, ultimately, when it comes before the Supreme Court of the United States on appeal.

Until that time what the Court of Appeals said in these cases is the law, only to be changed by itself or overruled by the Supreme Court of the United States, or possibly affected by some act of Congress, if such an act does not change the contract against the Constitution of the United States. Until that time it is the law; and under these circumstances I can conceive of no other construction of the law (notwithstanding the arguments submitted by the able counsel) than that the auditor must include in this further report the balance of royalties from every machine made since this contract was entered into, whether the invention of Morrow or otherwise, that is within the mechanical principle involved.

This is an outline of the decree I propose to make:

"This cause came on to be heard at this time, upon the exception filed by the complainant on the 2nd day of June, 1902, and the seventeen exceptions filed by the defendant on the twentieth of June, 1902, to the report of the auditor herein filed on the 2nd of June, 1902, and the same were argued at length by the counsel of the respective parties, and considered by the court.

"It is thereupon, this fourth day of August, 1902, by this court and the authority thereof, adjudged, ordered and decreed that all and singular the said exceptions filed in behalf of the defend-
516 ant be, and each of the said exceptions is hereby overruled; and that the exception aforesaid filed in behalf of the complainant be and the same hereby is sustained."

I will state that many of the seventeen exceptions filed by the defendant relate to questions of evidence, as to whether or no the auditor was right in admitting this piece of evidence or that; but apart from the great question, none of them need be spoken of here. One of them came nearer to being the proper subject of comment here than the others, and that is because it alleged the complainant, with the view of preventing an appeal to the Supreme Court of the United States, purposely refused to make claim for interest; so that the decree, if allowed by the auditor's statement, would be for less than five

thousand dollars. It was insisted on the one side that that was an improper refusal or prevention of the right of appeal by the party, and on the other that it was a perfectly legitimate one.

But that is now of no consequence at all; because if it be true that a very considerable addition will be made to the decree as it stands, the question of interest will be an unimportant one. None of them, therefore, need be noticed, except that in sustaining this solitary exception of the complainant I have overruled one or more of those of the defendant which are insisted on.

"It is further adjudged, ordered and decreed that this cause be, and the same hereby is, remanded to the auditor to restate the account between the parties, so as to include therein an allowance of royalties to be paid to the complainant by the defendant with
517 respect to the devices manufactured by the defendant company under letters patent granted to Alexander P. Morrow, numbered 611,073, and known as the Morrow brake, of which Defendant's Exhibit E-10 is claimed to be the type, upon the same terms and in the same manner expressed in the contract between the complainant and the defendant dated June 5th, 1897.

"It is further adjudged, ordered and decreed that the auditor is hereby authorized to take such further testimony as may be necessary to the statement of the further account hereby directed, and the said bicycle company shall discover and produce before the auditor all such books, papers and further evidence as may be in its possession pertaining to said further accounting."

This is the basis of the decree I will make in this cause. I shall be glad to have counsel on both sides make such suggestions as they shall think proper; and I should like to receive the decree soon, as I shall be here but two days more, and would rather sign it during my term here.

A. B. HAGNER

518 *Order Overruling Exceptions, &c.*

Filed October 10, 1902.

In the Supreme Court of the District of Columbia.

WILLARD N. FARROW, Complainant,
vs.
THE ECLIPSE BICYCLE COMPANY, Defendant. } Equity. No. 1905

This cause came on to be heard upon the exception filed by the complainant on the 2d day of June, 1902, and the seventeen exceptions filed by the defendant on the 20th day of June, 1902, to the report of the auditor herein filed on the 2d day of June, 1902, and the same were argued at length by counsel for the respective parties and considered by the court.

It is thereupon, this 10th day of October, 1902 by the court and

the authority thereof, adjudged, ordered and decreed that all and singular the said exceptions aforesaid filed in behalf of the defendant be, and each of the said exceptions is, hereby overruled; and that the exception aforesaid filed in behalf of the complainant be, and the same hereby is, sustained.

It is further adjudged, ordered and decreed that this cause be, and the same hereby is, remanded to the auditor to restate the account between the parties, so as to include therein an allowance of royalties to be paid to the complainant by the defendant with respect to the devices manufactured by the defendant company, its
519 servants, agents, or attorneys of which Complainant's Exhibit E–10 is the type, upon the same terms and in the same manner expressed in the contract between the complainant and the defendant dated June 5, 1897.

It is further adjudged, ordered and decreed, that the auditor is hereby authorized to take such further testimony as may be necessary to the statement of the further account hereby directed, and the said defendant company shall discover and produce before the auditor all such books, papers, and further evidence as may be in its possession pertaining to said further accounting.

A. B. HAGNER,
Asso. Justice.

Second Report of Auditor, &c.

Filed February 5, 1903.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
ECLIPSE BICYCLE COMPANY. } No. 19095. Equity.

This cause is referred again to me to state an account between the complainant and the defendant of the manufacture and sale by the latter of the device described as the Morrow hub-brake. After due notice I proceeded with the reference and return herewith
520 the testimony and exhibits submitted in proof.

The defendant filed in this additional reference an account purporting to show the entire sales of the said devices to June 30, 1900, and in support of the said account produced and submitted three books or records showing the daily sales during the period covered by the said account.

It appears in proof that after the close of business of the defendant on the said 30th of June 1900, all of its property and assets were transferred and delivered to a corporation entitled the Eclipse Manufacturing Company. It also appears in proof that among the property so transferred there were a number of the said Morrow hub-brakes and with these I have charged the defendant as being

devices disposed of by it and upon which it should account by way of royalty to the complainant under the contract of June 5, 1897.

In the schedule herewith I have stated the total sales of the said device by the defendant company including those disposed of to the Eclipse Manufacturing Company as above recited.

I have then calculated the royalties according to the contract of June 5, 1897, taking into account the royalties charged upon the devices included in my former report.

The said contract provides that the defendant should make returns to the complainant on the first days of March, June, September and December of each year as to the number of devices made and sold by the defendant and should pay royalties therefor within fifteen days thereafter. In this statement therefore I have
521 stated the respective dates on which interest should be allowed for the royalties upon the number of devices sold during the respective periods ending on the first days of said months in each year, the interest to be allowed from the end of the fifteen days as provided in the contract.

JAS. G. PAYNE, *Auditor.*

In accordance with the practice in these cases I furnished counsel for the respective parties with copies of the foregoing report with opportunity to make here such exceptions as they might desire and have the same heard. Exceptions have been filed by counsel for the defendant and I am notified that no exceptions will be filed here on the part of the complainant. I am also informed that neither party desires to present argument upon the exceptions of the defendant.

After considering the exceptions filed I find no reason to change the foregoing report in any particular or to make any change in the accompanying account. The said report and account are therefore submitted as my final report under the last order of reference.

JAS. G. PAYNE, *Auditor.*

522 SCHEDULE.

Additional Account of Royalties Owing by the Defendant, Eclipse Bicycle Company, to the Complainant, Willard M. Farrow, upon the Device Described as the Morrow Hub-brake.

Total sales of the said device to June 30, 1900...	109,039	
Number on hand at the close of business June 30, 1900 and disposed of to the Eclipse Manufacturing Company.....	7,781	
	116,820	
Royalties on 768 at 25 cents each.....		$192.00
Royalties on ten thousand at 15 cents each.....		1500.00
Royalties on 106052 at 10 cents each.....		10605.20
Amount due June 30, 1900		$12,297.20

Interest from December 15, 1899, on $2,082.50.
" " March 15, 1900, on 3,682.80.
" " June 15, 1900, on 5,329.40.
" " July 15, 1900, on 1,202.50.

JAS. G. PAYNE, *Auditor.*

523 FARROW
vs.
ECLIPSE BICYCLE CO.

FRIDAY, *October* 24, 1902.

Hearing pursuant to adjournment.

Present: Messrs. A. S. Worthington and Mackall for the defendants and Messrs. Gittings and Earle for the complainants.

Mr. WORTHINGTON: On behalf of the defendant company, I produce a further account required by the order made in this case on October 10, 1902, showing the number of brakes and the account represented by Exhibit E–10, in this case, to be 109,039. The counsel for the defendant states further that he has received from the defendant company and now produces, the shipping books of the defendant's numbers 5, 6 and 7, being the books of original entry of the shipments, from which this account is made up, and invites the counsel for the plaintiff to make such examination of them as they deem proper. The books will be left with the auditor for that purpose.

Mr. EARLE: We except to this account and call for the books of the company and some competent witness.

The AUDITOR: After hearing the counsel, the auditor makes this order in the premises; that the defendants should submit their account accompanied by testimony of some competent party as to its correctness and completeness, and that it should appear that the books offered in support of the account are either books of original entry in the methods of conducting the business of the defend-
524 ants, or are such records as in the methods and conduct of that business will originally exhibit in convenient form the manufacture and sales of the device which is the subject of this accounting and described in these proceedings as Exhibit E 10.

Mr. WORTHINGTON: The counsel for the defendant except to this order, first, because it is not within the powers of the auditor conferred upon him by the order of October 10, 1902, in the case, and also because if within the terms of that order, it is not within the power of the court.

The counsel for the defendant, while reserving the point by this formal exception, states that he has no doubt that the defendant will comply with it by producing here the book-keeper who will be able to show that the books here produced contain the only original entries of the matters set forth in the account filed and that the account is correct.

Hearing adjourned to Friday, October 31, at 11 a. m.

Hearing pursuant to adjournment.

Present: Messrs. Worthington, Osgood and Mackall and Earle and Gittings.

Mr. THOMAS E. MOREHEAD having been duly sworn, testified as follows:

By Mr. WORTHINGTON:

525 Q. Mr. Morehead, where do you reside? A. In Elmira, New York.

Q. Were you at any time employed by the Eclipse Bicycle Company? A. Yes, sir.

Q. During what period? A. Well, from 1885 to July 1, 1900.

Q. Are these three books which have been heretofore produced in this case, and marked Book 5, Book 6 and Book 7, are these books of the Eclipse Bicycle Company? A. Yes.

Q. Who kept these books? A. I did.

Q. And will you state what was the course of business from the shipment of the brakes to the entry in the books, so that we can find whether or not these are the books of original entry of the shipments made for the Eclipse Bicycle Company? A. The order for the brakes were made out by the man who had charge of the sales in the office, on what we called shipping order, or shipping blanks, that was given to me each morning and from that I shipped the goods, then I made a blue slip and made a copy of it in that book, then it was turned over to the office and from that the billing was done by the billing clerk in the office.

Q. Did you see the shipments made, were they made under your direction? A. Yes, sir.

Q. At what time did you make out the blue slip and put a copy of it into the books? A. Usually after the shipments were made.

526 Q. Did you yourself fill out the blue slip? A. Not always, but most of the time.

Q. When you did not fill them out, who did fill them out? A. My clerk.

Q. Under your supervision? A. Yes, sir, I checked them up, I was responsible for them.

Q. Can you state whether or not these books show all the shipment of brakes that were made by the Eclipse Bicycle Company during the time covered by these book-? A. I can.

Q. Do they? A. Yes.

Q. What became of these blue slips that these press copies were made from in these books? A. I do not know what became of them after they went to the office, I had nothing to do with that.

Q. You do not know whether or not they were filed or preserved? A. I could not say.

Q. These are press copies of those slips? A. Yes.

Q. Mr. Morehead, will you look at this account filed here which is headed, "Account of Morrow hub brakes, manufactured and sold

by Eclipse Bicycle Company," and which purports to be an account of the brakes sold from June 30, 1899 to June 30, 1900, and state whether or not you know if it is a comparison of these three
527 books? A. Well, I took those three books, 5 6 and 7 and took page by page, and stated as it is here, page 142, one brake, right down the page and put the total on the margin here.

Q. To the best of your knowledge and belief it is an exact comparison of these books? A. Yes, it is.

Q. So far as you know it, these books and this account show fully and exactly all of the brakes shipped by the Eclipse Bicycle Company during that period? A. Yes.

Q. Can you state whether or not these books and this account show all of the brakes of the kind described, which were sold by the Eclipse Bicycle Company at any time. A. Yes they are all there.

Cross-examination.

By Mr. EARLE:

Q. Mr. Morehead, I think you stated you were the shipping clerk? A. Yes.

Q. Not the book-keeper of the company? A. No, sir.

Q. Have you anything to do with the books of the company, other than those that you mention? A. No, sir.

Q. Do you know whether or not any other books are kept to show the number made and sold of these brakes? A. No sir, I know of no other books. These were the only books that I had anything to do with.

528 Q. Do you know who has charge of the books of the company? A. Which books do you mean?

Q. All the books except these? A. I do not think any one person has charge of them all.

Q. Are there books kept in the shop which would give a record of these devices and also in the office, showing the number of devices manufactured and completed and sold, separate books, in the shop and in the office. A. I could not say.

Q. Would it be possible for any brakes to be sold without their passing through your hands, without your knowing it? A. No sir, unless I was away on vacation.

Q. How long vacation did you usually have? A. Two weeks.

Q. Would it be possible that a number of brakes could be shipped away from the factory without being sold? A. Not without a record being made.

Q. The records in these books are only sales? A. No, a brake that had been sent out of the factory, sold, or given away is recorded in that book, just the same as sold.

Q. That included brakes sent to foreign countries? A. Yes.

Q. Does that list contain any sent to foreign countries?
529 A. Well, I don't remember just the time we opened up accounts with foreign countries. I could tell in a second by looking at the books.

Q. Well, will you look at the book and tell me whether or not any were sent to foreign countries?

Question withdrawn.

Q. Did you have any separate accounts with foreign countries? A. No, sir.

Q. Would the brakes sent to foreign countries appear on these books? A. Any brake sent out of the factory would appear on those books, whether sent to foreign countries, or domestic brakes.

Q. Have you any knowledge whether you shipped any to foreign countries?

Mr. OSGOOD: I object as immaterial to the point.

The AUDITOR: The objection is over-ruled. Exception noted.

A. Well I can't remember the names of any particular parties to whom brakes were sent, but all brakes that were sent, the names of the party to whom sent is copied at the top of the page of each shipment.

Q. Do you know whether or not any brakes were sent to foreign countries? A. Yes.

Q. To what countries were they sent, do you know? A. I could not remember now. I stated before, the only way I could positively state as to that would be to find the copy in the book. I could not give a positive answer as to that.

530 Q. What, Mr. Morehead, were your exact duties as shipping clerk, did you pack all the brakes to be sent out? A. I had jurisdiction over them, I did not myself, pack them into the boxes.

Q. Would it have been possible for any brake to have been packed and shipped without your knowledge? A. No, unless they were stolen.

Q. From whom did you obtain orders about shipping the brakes? A. The superintendent of sales.

Q. Who was the superintendent of sales? A. Mr. F. F. Weston.

Q. Mr. Frank Weston? A. Yes, sir.

Q. From whom did he received the orders to ship the brakes? A. Well he received them from various sources, by mail, from travelling salesman, or one of the customers would come into the office and give an order in person.

Q. Did you ship any of the brakes to the company's agents? A. You mean by that, parties acting for us, as the company's agents.

Q. Yes. A. Yes.

Q. Who were those parties? A. H. E. Walker and W. A. Richwine.

Q. Where is Mr. Walker? A. In New York.

531 Q. Where is Mr. Richwine? A. In Philadelphia.

Q. Any agents abraod? A. Those are the only parties I know who are the direct agents of the company.

Q. Would these books show brakes sent to Richwine? A. Yes.

Q. How were they usually shipped, individual orders, or a number at a time? A. Well, I could not state whether they were, or

not, they came to me from the office and the orders sometimes read "Ship W. H. Richwine or R. E. Walker or the Eclipse Bicycle Company" at their address in New York or Philadelphia.

Q. Have you any knowledge whether you shipped a number of brakes at one time to an agent, or did you just sent two or three or four or five? A. I don't remember any large quantity, the only way would be to look at the book of sales.

Q. Were you ever in the establishment of any agent? A. No, sir.

Q. Do you know whether or not these agents kept these devices on sale? A. I could not say, positively.

Q. Did you ever ship any brakes to Mr. Houk in London, Green and Houk? A. I would have to refer to the book, I could not say positively.

Q. Has the Eclipse Bicycle Company any agents in Lon-
532 don? A. Yes.

Q. Did you not say the only agents were in New York and Philadelphia? A. When you spoke of agent, I asked you if you meant parties who were employed by the Eclipse Bicycle Company, we regard all parties who sell brakes for us as agents, acting in the capacity of agent.

Q. Can you tell us the names of any other parties acting as agents, according to your definition? A. Any of our customers whose names appear in the books, are commonly known as agents no matter what State or where he is.

Q. If a party bought a brake for his own use, would you regard him as an agent? A. Well we did not as a rule sell one brake to one man, we mostly sold to jobbers in each city, I do not think where a man received one brake he would be considered an agent.

Q. Have the company any agent in London? A. I have answered that question.

Q. Who was the representative there? A. Green and Houk.

Q. Do these books show any devices shipped to Green and Houk? A. I could not say, but I presume they do.

Q. Have you any knowledge of shipping any to Green and Houk? A. Well as a rule we shipped to them and to a great many people
in the name of the Eclipse Bicycle Company and attached a
533 sight draft and a bill of lading.

Q. Then, that would be the Eclipse Bicycle Company shipping to itself? A. Yes.

—. Would it show it here, these books? A. Yes.

Q. Did wou ever have charge or control of these devices after manufactured and before ordered shipped? A. No, I simply acted in the capacity of shipping clerk.

Q. You had no charge or control before the time of shipment? A. No.

Q. Did——

WITNESS: I did not understand the question fully when I gave my first answer, and I would like to make a correction of that. The Eclipse Bicycle Company always had more or less brakes on

hand which I was held responsible for and had at any time to give an account of.

Q. Did you keep any record to show the amount you had on hand, in case you were called upon to give account of? A. Yes.

Q. Have you that book here? A. No, I haven't that book here, it was simply a little private book of my own, it had nothing to do with the company.

Q. Were these brakes when manufactured and completed, for which you were held accountable, and delivered to you, did you not keep a book to show how many were delivered, was no
534 book kept for that purpose? A. I did not keep any, I simply added the number to the number in the book, for my own convenience, so I would not have the trouble of counting up the brakes after the shipments were made.

Q. Do you know whether any book was kept showing how many brakes were completed and turned over to you? A. I could not say, the only books I have anything to do with are these books here and my own private book.

Q. Were you ever called upon to and account for brakes turned over to you?

Mr. WORTHINGTON: I object.

The AUDITOR: The objection is sustained.

Q. Do you know whether or not the company has any book to show the amount of brakes for which you were held responsible? A. Not to my knowledge.

Q. Do you, know whether or not on July 1, 1900 there were any brakes in your custody, for shipment which had not been sold? A. I could not say positively.

Q. Do you know how many brakes were on hand on July 1, 1900? A. No, sir.

Q. Do you know if any were? A. I could not say.

Q. Why is it you can't say, aren't you familiar with the business enough to know? A. I should think that was a pretty hard question for me to answer positively, whether any brakes were on
535 hand, it was three years ago.

Q. Have you not kept some book to show? A. The only book I kept was this little private book of mine. I might say at this time the reason why I kept that book. During the busy season, I had from 7 to 8 men under me, men of all classes, and it might be possible that some of these men would occasionally steal a brake, so every once and a while I would take an inventory of the brakes I had in the shipping room, and that inventory of course, if the shipments were correct, should correspond with the book, if it did not, it was my business to look around and try to find how the error occurred.

Q. What is your present duty?

Mr. WORTHINGTON: I object.

The AUDITOR: The objection sustained.

Q. Were you shipping clerk after June 30, 1900?

Mr. WORTHINGTON: I object.
The AUDITOR: The objection is sustained.
Mr. EARLE: We note an exception.

Q. Do you know of any book kept by the company that would show the number of the brakes on hand on July 1, 1900? A. I do not.
Q. Do you know if the company kept any such book? A. I do not.
Q. Did you ship any devices after July 1, 1900?

Mr. WORTHINGTON: I object.
The AUDITOR: The objection is over-ruled.
Mr. WORTHINGTON: I note an exception.

A. Not for the Eclipse Bicycle Company.
Q. Did you ship for any one after July 1, 1900, any of these
536 brakes which had been made by the Eclipse Bicycle Company? A. Yes.
Q. For whom did you ship them? A. The Eclipse Manufacturing Company.
Q. Were you at any time, on and subsequent to the 1st of July, 1900 in the employ of the Eclipse Bicycle Company?

Mr. WORTHINGTON: I object.
The AUDITOR: The objection is over-ruled.
Mr. WORTHINGTON: We observe the exception.

A. Yes.
Q. Are you in their employ now? A. I am in the employ of the Eclipse Manufacturing Company.
Q. Were you discharged June 30, by the Eclipse Bicycle Company? A. In a certain sense of the word, yes.
Q. In a certain sense of the word, will you explain what you mean by that, by whom you were discharged, and when? A. On July 1, 1900, the company changed hands from the Eclipse Bicycle Company to the Eclipse Manufacturing Company.
Q. Changed hands? A. All my knowledge is that when, like a great many shipments made to the Eclipse Bicycle Company with sight draft and bill of lading attached, after that date I was told all future shipments would be sent to the Eclipse Manufacturing Company.
Q. Who told you that? A. I could not state positively who it was.
537 Q. An officer of the company, someone under whom *who* were employed? A. I think it was the man who I got my orders from, not an officer of the company, but the superintendent of sales.
—. What is his name? A. Mr. Frank Weston, I might add I could not state positively who it was.

Q. You stated the business changed hands, was there a change of location, did the work change in any way? A. My work did not.

Q. The general affairs of the company, so far as you know, I am still asking you about the meaning of changing hands, did they remain at the same place? A. I remained in the same place.

Q. Did the factory remain at the same place? A. Yes.

Q. Did the officers remain the same? A. I could not state positively.

Q. Did Mr. Fulton remain with the company? A. Yes.

Q. Mr. Whittier? A. I don't know what Mr. Whittier's office is, the only officer I can state positively about is Mr. Fulton.

Q. Mr. Marrow remain with the company? A. Yes.

Q. Did Mr. Long? A. I don't know what Mr. Long's office is, I could not say, the only one I am positive about is Mr. Fulton.

Q. Did the work remain the same with the exception of the change of the name your orders were made to? A. Yes, the work remained the same.

538 Q. General work of the office? A. Yes.

Q. Did you continue after July first to sell these devices?

Mr. WORTHINGTON: I object.

Mr. EARLE: I withdraw the question.

Q. Isn't it a fact that after the company changed hands on July 1, 1900, in the manner you described, that you continued to ship for the Eclipse Manufacturing Company the devices that you had on hand on July 1st? A. I can't state positively whether I had any brakes on hand on July 1st, or even can I state whether or not I shipped any on July 1st?

Q. Do these books show any shipments on July 1st, 1900? A. No.

Mr. EARLE: I withdraw the question.

Q. Volume 7 of these books contains 995 numbered pages. The entries appear to stop on page 964, do you recall that you made any entry in any other book after June 30, of any of these devices shipped by you? A. All entries of shipments of brakes for the Eclipse Bicycle Company are made in these three books.

Q. Did you make any other entries?

Mr. WORTHINGTON: I object.

The AUDITOR: The objection is overruled.

Mr. WORTHINGTON: I reserve the usual exception.

A. Yes, I made other entries, but not in the capacity of shipping clerk for the Eclipse Bicycle Company.

539 Q. In what capacity, and for whom did you make those entries?

Mr. WORTHINGTON: I object.

The AUDITOR: The objection is over-ruled.

Mr. WORTHINGTON: I reserve the exception.

Q. For the Eclipse Manufacturing Company?

Q. Did you receive instructions to make any entries in any books other than these here in evidence? A. That was left to my discretion, I simply went to the office and got a new book.

Q. Is it a fact then, that when you ceased to ship devices for the Eclipse Bicycle Company on July 1, 1900, and began to ship them for the Eclipse Manufacturing Company, you began a new book? A. No, I think the first part of it was in this book, but I saw there was only a few pages left so I took the charges out and as this ended the last part of the month I think it run over a few days.

Q. How did you take the entries out?

Mr. WORTHINGTON: I object.

The AUDITOR: The objection is sustained.

Q. Was it customary to do that every month?

Mr. WORTHINGTON: I object.

The AUDITOR: The objection sustained.

Q. When this company changed hands to the Eclipse Manufacturing Company, did you take any inventory of the number of brakes that you had on hand? A. I don't remember.

Q. Do you know of anyone who did take an inventory? A. I could not say.

Q. Whose duty would it have been if one had been ordered? A. Mine, if I had been there at the time.

540 Q. Were you there at the time? A. I can't say positively where I was, but the records in the book on June 30 are in my hand-writing, so I presume I was there.

Q. What was the last inventory, prior to June 30? A. I could not give an intelligent answer to that.

Q. Did you take any? A. For my own benefit.

Q. At regular intervals? A. No sir, not at any regular time.

Q. Was any inquiry made of you by any officer of the company or anyone in the employ of the company as to the number of brakes on hand on that date, June 30? A. I don't remember. I want to give a positive and truthful answer to all of these questions, and I don't want to draw on my imagination.

Q. What is your best recollection as to any effort being made about that time to ascertain the number of brakes the company had on hand June 30? A. I have not any recollection of any inventory being taken on June 30, I don't know even, whether we had any brakes on hand at that time, I have no recollection of any inventory being taken, or any recollection of any effort to ascertain the number of brakes on hand.

Q. If any had been taken would you have been aware of it? A. I presume I would at the time.

Q. Was the business of the company in progress on June 30, 1900? A. Yes.

Q. July 1, 1900? A. I could not state unless I have some
541 record to show it and the only record I have are the copy-books which show that we were doing business on June 30, 1900.

Q. Do you know if any devices were being made on June 30? A. I could not say.

Q. Do you know whether the shop was in operation at that time? A. I could not say.

Q. Was your part of the office in operation? A. I could not state how many men I had in my employ, I was acting as shipping clerk, the records in the copy-book shows that.

Q. Do you know if Mr. Whittier was the treasurer of the company? A. I could not say.

Q. Do you know the treasurer of the Eclipse Manufacturing Company? A. The only man that I am positive about is Mr. Fulton.

Q. Are you familiar with Mr. Whittier's hand-writing? A. Yes.

Q. Would you know his signature? A. Yes.

Q. Will you state if that is Mr. Whittier's signature?

Mr. WORTHINGTON: I object.

The AUDITOR: The objection is over-ruled.

Mr. WORTHINGTON: I reserve an exception.

A. To the best of my knowledge and belief it is.

The AUDITOR: The materiality of this question fails to ap-
542 pear and the witness is allowed to identify the signature without prejudice to any objection that may be made to the introduction of the paper in evidence.

Testimony closed.

543 FARROW
vs.
THE ECLIPSE BICYCLE COMPANY.

THURSDAY, *November* 6, 1902—10:30 a. m.

Hearing pursuant to adjournment.

Present: Mr. Worthington, Mr. Osgood, Mr. Gittings and Mr. Earle.

Mr. WORTHINGTON: I wish to state on behalf of myself and the other counsel for the defendant in the case, that when the shipping book, No. 7 was produced here, as it was by me personally, that none of us knew of the fact, testified to by the witness, W. E. Morehead, that the pages following page 936 had been removed and blank pages inserted in lieu thereof.

I wish further to state that we have learned and now admit the fact to be that so far as this shipping book is concerned that when the transfer of the business of the Eclipse Bicycle Company to the Eclipse Manufacturing Company took place the entries were made i- this book following page 963, just as they had been made before, and as they now appear in the book down to page

963. We also state that those pages so removed have been placed in the beginning of a new book of the Eclipse Manufacturing Company and that if this admission is not sufficient for the purpose of the plaintiff's counsel we will have those pages produced here so as to make the shipping book, No. 7, complete as it was before the pages in question were removed. It is needless to say that if the counsel had known that the pages had been removed the books would not have been offered by them in the present issue.

Mr. EARLE: We except to this statement of the counsel for the defendant.

544 Mr. WORTHINGTON: We offer on behalf of the defendant, in accordance with the requirements of the auditor a supplemental account in this case sworn to by Thomas E. Morehead, who has been a witness in this case, showing that the number of the hub-brakes on hand by the Eclipse Bicycle Company at the close of the business, June 30, 1900 was 7781.

Mr. EARLE: We except to this supplemental account and call for the production of the books from — it is supposed to have been made and the affiant for the purpose of cross-examination. We ask for rule, your honor, upon the company to produce this witness with the book.

Mr. WORTHINGTON: The counsel for the defendant state that they understand that they have complied with all that is required of them in this case in its present stage, in the way of complying with the order of the court, re-referring the case to the auditor, and with the instructions of the auditor in pursuant- thereof and that we rest accordingly.

Mr. EARLE: The counsel for the complainant except to the books offered in support of the statement as not being original books of entry. We except to the supplemental account which has been presented as showing the number of devices on hand, June 30, 1900, as being unsupported by any testimony or books of the company referring to the same. Further that none of the books here presented are books of original entry showing all sales of such devices and the supplemental account does not show what disposition, if any, was made of the devices claimed to be on hand.

Mr. HENRY L. EARLE, having been duly sworn, testified as follows:

545 Mr. GITTINGS:

Q. You are one of the counsel for the complainant in this case? A. Yes sir.

Q. Did you have any correspondence with the Eclipse Bicycle Company during the month of April, 1901? A. I did, I wrote them a letter, to which they replied.

Q. Kindly look at this letter and state whether you ever received that in reply to your letter to the Eclipse Bicycle Company? A. Yes, that is the letter I received.

Mr. GITTINGS: We offer this letter in evidence.

Mr. WORTHINGTON: I object.

Mr. GITTINGS: I make a call for the letter of Mr. Earle to the Eclipse Bicycle Company during the latter part of April, 1901.

Cross examination.

Mr. WORTHINGTON:

Q. Isn't it a fact that in or about April 1901, there was correspondence between your client, Mr. Farrow and certain officers of the Eclipse Bicycle Company and yourself, relating to the matter of an attempted compromise of this litigation growing out of the writing of a letter by your client, Mr. Farrow, to Mr. Fulton, proposing a compromise of the case behind the backs of all the counsel? A. I never heard of any such correspondence. I was informed by Mr. Whitt-er when he was in Washington some time previous to those letters that he saw Mr. Farrow, and had a talk with him in which he made an offer of compromise. Mr. Farrow at once reported
546 the matter to me and I wrote to Mr. Whittier the letter to which you hold the reply.

Q. You have never been informed by your client that Mr. Whittier's visit to him grew out of a letter written by your client, himself, to the officers of the company, proposing a compromise of the case without consulting the counsel on either side of the case? A. I was never so informed. The only thing I have any recollection of being told on the subject by Mr. Farrow is that Mr. Whittier made certain overtures to him, which he reported to me.

Mr. WORTHINGTON: I object to the introduction of this letter for the following reasons: First, because on its face and especially when taken in connection with the letter of Mr. Earle to which it is a reply and which the plaintiff's counsel have called upon us to produce, it is a communication written in connection with the attempted compromise of this litigation; secondly, because it purports to be an admission by the Eclipse Manufacturing Company, and in the present state of the evidence and record in this case at least, no admission made by the Eclipse Manufacturing Company is competent evidence against the defendant in this case; thirdly, because it purports to be an admission or statement by one D. L. Whittier and that no admission made by any officer either of the Eclipse Manufacturing Company or the Eclipse Bicycle Company is competent evidence against the defendant in this case; and fourthly, because the letter is wholly irrelevant to any issue before the auditor or to any matter involved in this case.

Mr. GITTINGS: We offer in evidence Plaintiff's Exhibit E 11, which purports to be a letter from the Eclipse Manufacturing
547 Company to Henry M. Earle, dated April 26, 1901 and signed D. L. Whittier, treasurer. We offer this letter as one of the pieces of evidence which tends to show that the Eclipse Manufacturing Company absorbed the Eclipse Bicycle Company and is one and

same legal person, the purpose being to follow up this letter by the introduction of deeds showing the transfer of all the real estate, being the factory and equipments of the Eclipse Bicycle Company to the Eclipse Manufacturing Company for a nominal consideration, and other evidence which will tend to show that The Eclipse Bicycle Company, defendant in this case, has been absorbed by the Eclipse Manufacturing Company.

Mr. WORTHINGTON: The defendant's counsel repeat each of the objections stated above to the introduction of this letter in evidence.

The AUDITOR: The objections are sustained.

Mr. GITTINGS: We note an exception.

Mr. GEORGE A. YOUNG, having been duly sworn, testified as follows:

Mr. EARLE:

Q. Mr. Young, you were a previous witness in this case, I believe? A. Yes, sir.

Q. On page 13 of the testimony, you were asked, "Please state whether you ever bought any of the devices you have just mentioned, and from whom." Devices being described as the Morrow hub-brake and coaster. You replied, "Yes I bought the first six of those Morrow brakes from the Eclipse Bicycle Company of Elmira, New York, and have since bought from Mr. Richwine of
548 Philadelphia, Pennsylvania." Will you please state if subsequent to June 30, 1900 you have bought any of the same devices? A. I have.

Q. From whom?

Mr. WORTHINGTON: I object.

A. Mr. Richwine of Philadelphia.

Q. Mr. Young, did you receive any communications from any one in relation to these Morrow coasters and brakes? A. Yes, I have.

Q. Please look at this and see if that is one you have received? A. Yes.

Mr. EARLE: We offer this letter in evidence.

Mr. WORTHINGTON: I object to that on all of the grounds above stated by way of objection to the letter purporting to be from Mr. Whittier, marked Exhibit E. 11, except the first ground.

The AUDITOR: The letter is filed subject to the objections to await further developments of the case. It is to a certain extent proof that the Eclipse Manufacturing Company were dealings in this Morrow brakes.

Mr. EARLE: I offer a certified copy of a deed, dated June 27, 1900 of certain property described therein from the Eclipse Bicycle Company to Mr. H. H. Fulton, Mr. D. L. Whittier and Mr. A. D. Long.

Mr. WORTHINGTON: I object to this deed, first because the copy is not properly certified to, and it is not admissable evidence because

it in nowise tends to show that the Eclipse Manufacturing Company manufactured or sold any brakes after June 30, 1900, and is therefore irrelevant in this case.

The AUDITOR: The deed is filed subject to the objection, marked Exhibit E 13.

549 Mr. EARLE: We offer another deed, dated June 27, 1900 from Messrs. H. H. Fulton, S. L. Whitter and A. D. Long to the Eclipse Manufacturing Company of Wilmington, Delaware.

Mr. WORTHINGTON: I object to that deed, and repeat the objections made to the last deed offered in evidence.

550 FARROW
vs.
ECLIPSE BICYCLE COMPANY.

FRIDAY, *November* 7, 1902.

Hearing pursuant to adjournment.

Present: Mr. Worthington, Mr. Osgood, Mr. Mackall, Mr. Earle and Mr. Gittings.

Mr. EARLE: The counsel for the complainant moves the court for a rule to compel the defendant to account on a day certain for the devices which are the subject of this action, that said company had on hand at the date that it transferred its property to the Eclipse Manufacturing Company, and further that said defendant company be required to state the terms upon which it conveyed any of its property in any wise subject to the terms of its contract with the complainant, and further that the said defendant show what right, if any it had, to discontinue to manufacture or sell the said devises under their contract with the complainant under the name of the Eclipse Bicycle Company and thereafter continue to manufacture and sell the said devises through the said Eclipse Manufacturing Company, that the manufacture of the said devices by the said Eclipse Manufacturing Company be held to be by the authority and procurement of the defendant in fraud of complainant's rights and that said Eclipse Manufacturing Company be required to account on a day certain for all of said devices by it sold, being the Morrow hub-brakes and coasters delivered to it by the said Eclipse Bicycle Company, and as well those devices by them made and sold for or in the place and stead of the defendant, The Eclipse Bicycle
550½ Company, and further the complainant moves the court for a rule on defendant to account for all those devises described in the decree of Mr. Justice Hagner, manufactured and sold under the name of the Eclipse Manufacturing Company.

Mr. WORTHINGTON: I object to these references to the Eclipse Bicycle Company, they are all objected to by the counsel for the defendant, and so far as they ask relief against the Eclipse Manufacturing Company, the counsel state that they do not appear here for that company and have nothing to say in its behalf.

After argument by the counsel, the hearing was adjourned to Saturday morning at 10:30.

551 FARROW
vs.
ECLIPSE BICYCLE COMPANY.

NOVEMBER 8, 1902—10.30 a. m.

Hearing pursuant to adjournment.

Mr. Frailey appeared for Mr. Worthington stating that all of the counsel for the defendant are unexpectedly absent from the sity.

Mr. Gittings appeared for the complainant.

The auditor states, that after considering the motion filed on yesterday by the complainant, he is of the opinion that upon the proof now in the reference the defendants should be charged with the number of the devices on hand at the date of the transfer of its property as if the same had been sold in the ordinary course of business.

Further, that he has concluded to make the following order,

That the defendant on or before the twenty-first day of November, 1902, present in this reference an account of all the devices described as the Marrow hub-brake and coaster, otherwise known in this proceeding as Exhibit E. 10, manufactured or sold or otherwise disposed of after the 30th day of June 1900 by the defendant or any person or corporation under or by virture of any license, permission or authority of the defendant, together with the name of such person or corporation and date of such sale or disposition

The auditor further announces that he must decline to make any rule at this time upon the Eclipse Manufacturing Company as set forth in the said motion of the complainant until further evidence is submitted competent to show the ident-y of the said company with the defendant in this cause.

The further hearing is then adjourned to Friday, November 21, 1902 at 11 o'clock, a. m.

552 FARROW
vs.
ECLIPSE BICYCLE COMPANY.

FRIDAY, *November* 21, 1902—11 o'clock.

Hearing pursuant to adjournment.

Present: Mr Gittings for the complainant and Mr. Worthington for the defendant.

Mr. WORTHINGTON: I wish to state that under the service upon me as one of the counsel for the defendant of the further order made by the auditor on the 8th of November 1902, my associate counsel in this case, Mr. Osgood, went to Elmira and conferred with the officers of the Eclipse Bicycle Company in reference thereto. I am now instructed by my client to state, and do state that what has already been done in this case by the defendant in compliance of the order of the auditor of October 24, 1902, is a full compliance with the order of November 8, 1902, in other words that the Eclipse Bicycle Company has not by or through any officer, agent or employee of that

company or by any person, corporation under or by virtue of any license or permission or the authority of the defendant manufactured or sold any brakes of the kind for which the defendant is now accounting, or any other brakes since the 30th day of June, 1900, except those referred to in the testimony of the witnes- Morehead and the supplemental account which was filed after he left the stand.

Mr. GITTINGS: I object to this return as being insufficient and improper under the rules and under the rules of the court applying to the proceedings of the auditor, for counsel to come in and state
553 that he has been informed by associate counsel, who has been informed by the defendant, The Eclipse Bicycle Company, a corporation that such and such a thing is true as being no return whatever under this rule. We are not even informed by the counsel what officer of the company, gave him this information, we have nothing tangible. We are entitled to a return under this rule under oath by some executive officer of the company and move the court for such an order in the premises as will compel the defendant company to make proper return.

The AUDITOR: After hearing the statement of the counsel for the defendant and the objections of the counsel for the complainant to the so-called return as insufficient in substance and form, the auditor makes the following statement: The statement of counsel for the defendant is not a sufficient return to the rule of November 8, 1902 and the defendant is required to submit on or before Wednesday, the 26th of November a complete formal and specific return to the said rule, the said return to be in writing and duly verified by the oath of some authorized officer of the defendant company.

[Endorsed:] Copy Proceedings of Nov. 21/02.

554 WEDNESDAY, *November* 26, 1902.

Mr. Worthington for the defendant appears and submits a return of the defendant to the rule issued on the 21st instant, which paper is filed.

Mr. Gittings for the complainant files, in writing, exceptions to the return this day submitted by the defendant company, and moves the auditor for a rule upon the defendant to produce the said David L. Whittier, its treasurer, and one of its executive officers who made affidavit to the said return, for cross-examination by the complainant.

555 FARROW
vs.
ECLIPSE BICYCLE COMPANY.

SATURDAY, *November* 29, 1902.

Hearing pursuant to notice.

Mr. Gittings present.

Mr. GITTINGS: I except to the return on the ground that the evidence produced discloses the fact that the Eclipse Manufacturing

Company is manufacturing and selling the Morrow hub-brakes and that the factory at Elmira, New York, on the 30th day of June in possession and control of the defendant and on July 1st, with all its stock of brakes on hand was sold and transferred to the Eclipse Manufacturing Company, of which company, Mr. Whittier is also an executive officer and of which company the president of the defendant is also an executive officer, all of which is contradictory to the statements made by Mr. Whittier under oath in the return to the rule.

The AUDITOR: The auditor makes the following order: Upon the filing of the return of the defendant through its treasurer, David L. Whittier, to the rule issued in this reference on the 8th day of November, 1902 and the exceptions of the solicitors for the complainant to the said return, the defendant is hereby required to produce the said David L. Whittier on Friday, the fifth day of December 1902 at ten o'clock a. m. for examination by me as auditor under the authority of the rules of this court.

[Endorsed:] Nov. 29—1902 Proceedings

556

FARROW
vs.
ECLIPSE BICYCLE COMPANY.

DECEMBER 6, 1902.

Hearing pursuant to adjournment.

Present: Mr. A. S. Worthington, Mr. Osgood, Mr. Mackall, Mr. Gittings and Mr. Earle.

Mr. WORTHINGTON: The counsel for the defendant state that in compliance with the order of the auditor in this case dated November 29, 1902, they have required Mr. David L. Whittier to attend and he is here today for cross-examination under the order of the auditor. Counsel for the defendant however, wish to state that in doing so they do not in any wise withdraw or modify the objection which they have heretofore made to the rule under which Mr. Whittier is here or to the rule under which his affidavit was filed, insisting now, as they have heretofore, that the inquiry now being conducted by the auditor is one which is beyond his jurisdiction under the order made by the court re-referring the case to the auditor.

Mr. DAVID L. WHITTIER having been sworn, testified as follows:

By Mr. EARLE:

Q. Mr. Whittier, you state that you are the treasurer of the Eclipse Bicycle Company, are you an officer of the Eclipse Manufacturing Company, if so, what?

Mr. WORTHINGTON: I object to this question on the ground that the affairs of the Eclipse Manufacturing Company can not be in

quired into here, at least until it has been held and decided that the Eclipse Manufacturing Company and the Eclipse Bicycle Company are one and the same corporation or that the manufacturing company is the bicycle company's agent or employee or is operating under a license, authority or permission of the bicycle company.

557 Mr. EARLE: I withdraw the question.

Q. How long have you been the treasurer of the Eclipse Bicycle Company, Mr. Whittier? A. About seven years.

Q. Is the Eclipse Bicycle Company now in existence? A. It is.

Q. What is its business? A. It has no business whatever.

Q. Did it engage in the manufacture of the Morrow hubbrake and coaster, described as Exh-bit E. 10? A. Yes.

Q. Did it not, December 1899, announce that after January 1st, 1900, it would discontinue to manufacture bicycles and devote its entire time to the manufacture of the Morrow brake and coaster? A. I expect it, yes.

Q. Did it some time before it ceased to manufacture the Morrow brake and coaster, devote its entire time to the manufacture of that device? A. The brake alone?

Q. Yes. A. It did.

Q. By what authority or license did the Eclipse Bicycle Company engage in the manufacture of the device known as the Morrow brake and coaster?

Mr. WORTHINGTON: I object to that question because the first inquiry should be whether the authority whatever it was, was in writing as otherwise the witness might be stating the contents of a written documents.

The AUDITOR: The objection is over-ruled.

Mr. WORTHINGTON: I note an exception.

558 A. Under direct license of Mr. Morrow, the patentee, in writing.

Q. Who was the owner of the patent of the said device? A. Mr. Morrow.

Q. Do you know who owned the patent at the time the Eclipse Bicycle Company was manufacturing the said device? A. Mr. Morrow.

Q. Who are the officers of the defendant? A. Mr. H. H. Fulton, president; David L. Whittier, vice-president and treasurer, and Mr. A. D. Long, secretary.

Q. Who were the officers on the 30th day of June 1900? A. The same officers.

Q. What manufacturing plant did the Eclipse Bicycle Company occupy? A. The one they own at Elmira.

Q. What did the plant include? A. The factory and machinery for the manufacture of the brakes.

Q. Does the Eclipse Bicycle Company now own that plant? A. It does not.

Q. By whom is it occupied? A. It is occupied at the present time by the Eclipse Manufacturing Company.

Q. Are they the owners of it? A. Yes.

Q. When the business of the Eclipse Bicycle Company was transferred to the Eclipse Manufacturing Company, did the latter company obtain the right to manufacture the Morrow brake and coaster?

559 Mr. WORTHINGTON: I object to that question because it assumes what has not been proven, that the business of the bicycle company was transferred to the manufacturing company and because it does not appear whether the information asked for is contained in writing, the contents of which could be proven by the writings themselves, until their absence is accounted for.

The AUDITOR: The objection is over-ruled.

Mr. WORTHINGTON: I note an exception.

A. It did not.

Q. Were the terms by which the Eclipse Manufacturing Company succeeded to the business of manufacturing the Morrow device subject to any written agreement or contract between it and the defendant? A. It was not.

Q. What was the object of the transfer of the business of the Eclipse Bicycle Company to the Eclipse Manufacturing Company? A. There were three objects in view, one was that the Eclipse Bicycle Company has ceased manufacturing bicycles some months previous, another reason was that we needed the capacity of the factory to manufacture the brakes and another reason was that the name Eclipse Bicycle Company was not at all appropriate when we were not manufacturing bicycles and still another reason was that in retaining the name, the Eclipse Bicycles Company when we were not manufacturing bicycles, but trying to sell brakes to other bicycle manufacturers we antagonized them. They felt we were in the same line of business and competing with them, and it operated against the business.

Q. The reason therefore was to change the name and style
560 of the corporation, was it not? A. I have given the object here, yes.

Q. Was the Eclipse Bicycle Company indebted, under any indebtedness at the time of its transfer. A. It was owing for goods purchased and for money borrowed.

Q. What disposition was made of the said indebtedness by the Eclipse Manufacturing Company? A. The Eclipse Bicycle Company sold out to a party of three men, they again sold out to the Eclipse Manufacturing Company and in the sale the Eclipse Manufacturing Company came into the possession of all the assets of the Eclipse Bicycle Company and assumed the payment of its indebtedness for unpaid bills for merchandise bought and for cash borrowed.

Q. The Eclipse Bicycle Company therefore practically trans-

ferred its business to the Eclipse Manufacturing Company. A. It sold out.

Q. What became of the stockholders of the Eclipse Bicycle Company in the event you mention? A. They are all still living.

Q. What about their stock, their interest in the Eclipse Bicycle Company, was it purchased? A. The Eclipse Bicycle Company sold out to three parties who purchased the assets, as I explained, by their note for $498,000 to be paid by stock in the Eclipse Manufacturing Company and to be distributed among the stockholders of the Eclipse Bicycle Company.

Q. Did the Eclipse Bicycle Company own the right to use the trade name Morrow hub-brake and coaster under which it conducted business and sold these devices?

Mr. WORTHINGTON: I object as calling upon the witness to give a conclusion of law.

The AUDITOR: The objection is overruled.

Mr. WORTHINGTON: I note an exception.

561 A. I can't answer as to the trade mark, if the trade name was included in the license under which it operated, then it did.

Q. Do you know whether it was included in the license? A. I do not.

Q. Do you know of any device accomplishing the same purpose as the Morrow hub-brake and coaster put on the market under the name of the Morrow hub brake made by any one other than the Eclipse Bicycle Company?

Mr. WORTHINGTON: I object on the ground that what was done by numerous other manufacturers throughout the United States has nothing to do with this case and that the information the witness may have on that subject is still farther from the point.

The AUDITOR: The objection is sustained.

Q. Was not the right to use this trade name transferred to the Eclipse Manufacturing Company by the Eclipse Bicycle Company when it transferred its business? A. No sir, it was not.

Q. The Eclipse Bicycle Company had been using that trade name and built up a business under it and had extensively advertised under it then in transferring its business to the Eclipse Manufacturing Company did they not also transfer whatever right they had to use that name? A. It did not.

Q. Then the Eclipse Bicycle Company still owns the right to use the name Morrow hub-brake and coaster and apply it to any device which they might manufacture. A. I do not know.

562 Q. Do you know if there is any reason why the Eclipse Bicycle Company—any reason to prevent the Eclipse Bicycle Company from today engaging in the manufacture of a brake and coaster and calling it the Morrow brake and coaster and advertising

it under that name? A. I do not, beyond the fact of its having sold out its business.

Q. Would the fact that it has sold out its business be sufficient reason to prevent it from engaging in the making of brakes and coasters of some type other than the Exhibit E. 10 and selling it as the Morrow brake and coaster?

Mr. WORTHINGTON: I object as the witness is not assumed to be an expert in law.

The AUDITOR: The objection is sustained.

Q. Do you know of any covenant between the Eclipse Bicycle Company and the Eclipse Manufacturing Company whereby the Eclipse Bicycle Company agreed not to use the trade name Morrow hub-brake and coaster? A. I do not.

Q. Do you know if the Eclipse Bicycle Company was the first company to use the trade name the Morrow hub-brake and coaster and when that name was applied. A. I think it was the first company, but I can not give the date when it was first applied.

Q. How long did the Eclipse Bicycle Company use that descriptive title in conducting its business, "The Morrow hub-brake and coaster?" A. It used it until it sold out, I can not give the date when it began to use it.

563 Q. Some years before it sold out? A. Yes.

Q. Does the Eclipse Manufacturing Company now use that descriptive title? A. It does.

Q. Did it not obtain the right to use it at the time the business was transferred to it by the Eclipse Bicycle Company? A. Yes, it did.

Q. From whom did it obtain that right? A. From the owner of the patent, Mr. Morrow.

Q. Did Mr. Morrow own the right to that descriptive title?

Mr. WORTHINGTON: I object to that question as being a question of law.

Mr. EARLE: I withdraw the question.

Q. How do you know that they obtained it from Mr. Morrow, Mr. Whittier? A. By a written license.

Q. Did the Eclipse Bicycle Company have a written license from Mr. Morrow to use that descriptive title, when it manufactured under that patent? A. It did.

Q. Was that license revoked?

Mr. WORTHINGTON: I object as being a question of law.

The AUDITOR: The objection is over-ruled.

Mr. WORTHINGTON: I note an exception.

A. To my knowledge, it was not.

Q. Does it still exist? A. I think it does.

Q. Then if it still exists, the Eclipse Bicycle Company would

have the right to engage in the business if they wanted
564 to and use the descriptive title the Morrow hub-brake and coaster?

Mr. WORTHINGTON: I object as being a question of law, if it can be taken as a question at all.

The AUDITOR: The objection is sustained.

Mr. EARLE: The question is withdrawn.

Q. Mr. Whittier, do you understand that the Eclipse Bicycle Company has now the right to engage in the manufacture and sale of the Morrow hub-brake and coaster?

Mr. WORTHINGTON: I object because whatever Mr. Whittier's opinion may be, as a matter of fact, it is of no consequence and incompetent and I object in the second place because his opinion on a question of law is asked.

The AUDITOR: The objection is overruled.

Mr. WORTHINGTON: I note an exception.

A. I do not know.

Q. You said, did you not, that the Eclipse Bicycle Company had the license from Mr. Morrow? A. I said I thought the license had not been revoked.

Q. Has the Eclipse Bicycle Company any time since July 1st, 1900 engaged in the manufacture of this device, Exhibit E. 10, the Morrow hub-brake and coaster? A. It has not.

Q. Mr. Morehead testified that the Eclipse Manufacturing Company disposed of a number of the Morrow devices which the Eclipse Bicycle Company had on hand, June 30, 1900, will you state by what right or authority the Eclipse Manufacturing Company disposed of said devices? A. It became the owner of that number of brakes when it purchased the assets of the Eclipse Bicycle Company.

Q. Then it became the owner of the right to sell those brakes
565 did it not, under the descriptive title of the Morrow hub-brake and coaster.

Mr. WORTHINGTON: I object as being a question of law.

The AUDITOR: The objection is sustained.

Q. Mr. Whittier were you aware of the opinion rendered in this cause, by the Court of Appeals in January 1900? A. I can not say positively.

Q. Did you know the opinion was rendered by the Court of Appeals in January 1900? A. I knew it later.

Q. Do you recall if you knew it before July 1st, 1900? A. I do not.

Q. Was the Eclipse Bicycle Company indebted to the Chemung County bank at the time of the transfer of its business to the Eclipse Manufacturing Company.

Mr. OSGOOD: I object.

The AUDITOR: The objection is sustained.

Q. Are you aware that as a result of this litigation that the courts have held that the Eclipse Bicycle Company is liable to Farrow for royalties on the devices known as the Morrow hub-brake and coaster, (Exhibit E. 10) which they manufactured?

Mr. WORTHINGTON: I object in the cause of time, what the witness knows now of the result of this litigation has nothing to do with the transfer in 1900 of the assets of the defendant to the Eclipse Manufacturing Company.

The AUDITOR: The objection is sustained.

Q. Are not the books of account kept by the Eclipse Bicycle Company now in the hands of and under the control of the Eclipse Manufacturing Company, and is not said manufacturing company continuing to use such books in connection with its business? A. They are not.

566 Q. Where are those books? A. The books of the Eclipse Bicycle Company?

Q. Yes. A. They are stored away, have been stored away, ever since the company went out of business.

Q. Where are they stored? A. I do not exactly know, they may be in the loft of the office of the Eclipse Manufacturing Company, but they are out of use.

Q. Do you know anything about the affairs of the Eclipse Bicycle Company which involuntarily incapacitated it from the observance of the contract which the courts have held existed between it and Farrow?

Mr. WORTHINGTON: I object as manifestly calling for the witness's opinion upon a question of law.

The AUDITOR: The objection is sustained.

Q. When the defendant transferred its business to the Eclipse Manufacturing Company was it not with the knowledge and intention that such arrangement would necessarily involve the manufacture and sale of the Morrow hub-brake and coaster. A. It may have been understood, but there was no definite arrangement in regard to it.

Q. Was not the Eclipse Manufacturing Company organized to continue the business of the Eclipse Bicycle Company? A. It was not organized for that specific purpose. I have given you the reason why it was organized.

Q. Are Mr. Fulton, Mr. Long, Mr. Morrow and yourself
567 officers of the Eclipse Manufacturing Company? A. Mr. Fulton, Mr. Long and myself are officers, Mr. Morrow is not.

Q. Was Mr. Morrow ever an officer of the Eclipse Manufacturing Company? A. He was not.

Q. Was he a director of the Eclipse Manufacturing Company? A. He was for a short time.

Q. Is he employed by the Eclipse Manufacturing Company? A. He is.

Q. What is his capacity? A. Superintendent of the factory.

Q. Was he superintendent of the factory of the Eclipse Bicycle Company? A. He was.

Q. Was he their superintendent up to the time they transferred their business to the Eclipse Manufacturing Company. A. He was.

Q. Do you know if he was superintendent of the Eclipse Bicycle Company at the time they entered into a contract with Farrow which is January 5, 1897? A. He was.

Q. Has the Eclipse Bicycle Company at this time any employees? A. It has not.

Q. Are its only officers also officers of the Eclipse Manufacturing Company? A. Yes, the officers of the Eclipse Bicycle Company simply hold over, they never resigned.

568 Q. Did the Eclipse Bicycle Company defray the expense of this litigation? A. It has not since it went out of existence when it sold out.

Q. Who defrayed them? A. The Eclipse Manufacturing Company.

Re-direct examination.

By Mr. WORTHINGTON:

Q. Why. A. For the reason that, from the natural circumstances of the case there was following that possibility that Farrow's suit, which we always thought a very unjust one, should succeed in obtaining judgment against the Eclipse Bicycle Company and the next natural step would be to try to follow the assets and consequently the Eclipse Manufacturing — paid its court costs in the suit.

Q. Had the matter of taxation any thing to do with the incorporation of a new company? A. It had. It was considered advisable to incorporate under the laws of another State as being cheaper in the way of taxation than in the State of New York.

Q. When was the subject of the incorporation of the new company first discussed in and among the officers and stockholders of the bicycle company. A. Some months previous to the action.

Q. About what time according to your recollection was the subject first approached? A. I can not give the date I know it was several months previous.

569 Q. Was it before or after the decision of the Court of Appeals in this case in January 1900? A. It was previous to that, it had nothing to do with that decree.

Q. Can you tell me whether or not it was before or after the first of February that the matter was discussed. A. Previous to that, in 1899.

Q. What is this book that I show you, marked "H. H. Fulton, president, private." A. It is a private letter copy book of Mr. Fulton's letters, president of the company.

Mr. WORTHINGTON: I now in the presence of the auditor and counsel cut from page 719 of this book, this letter press copy of a letter dated January 6, 1900, addressed, "Corporation Trust Com-

pany, Dover, Delaware," and signed "H. H. Fulton, pres't," and ask you whether or not that is a genuine signature of Mr. Fulton?

A. Yes, it is.

Q. Had you any knowledge at that time that such a communication was being sent? A. Yes, that was one of the matters up for consideration.

Mr. WORTHINGTON: I offer this in evidence, marked Exhibit Whittier 1.

JAN. 6, 1900.

The Corporation Trust Co., Dover, Delaware.

GENTLEMEN: I wrote you several days ago, in answer to your letter of the 29th, asking you if you could carry through the organization of a new company for use, or, in other words, that we would sell out this company to a company to be organized
570 under the laws of Delaware, with a capital of $700,000, and if this was in the line of your work, what it would cost us and how long it would take. We have not heard from you, and would like to have your reply *at once*. Please address letter to the writer in person.

Yours truly,

(Signed) H. H. FULTON, *Pres't.*

Q. In the discussions and consultations among the officers of the Eclipse Bicycle Company which led up to the incorporation of the manufacturing company were you present, participating? A. I was.

Q. As to your own intention, what, if anything, had this suit or the results that had been reached in it at the time the manufacturing company was organized, to do with the organization of the new company and the tran-fer of the assets of the bicycle company to it? A. It had nothing to do with it, I have given the reason why we made the sale.

Q. Now in the conversations and consultations with the other officers of the company, what, if anything, was said by them or any of them, indicating that this suit had anything to do with the incorporation of the new company? A. Nothing to my knowledge.

Q. It appears from the record in this case at the time of this transfer, Mr. Mackall was your counsel in the cause, what if anything, communication or consultation, was had with him in reference to this transfer or the organization of the new company, before the completion of the transaction. A. None whatever.

571 Q. So far as you know did he know that it was even contemplated? A. He did not know to my knowledge.

Q. In this transaction of incorporating a new company and transfer to it of the assets of the bicycle company, did the bicycle company or its officers have any counsel or attorney? A. It did not.

Q. Why was it that you adopted the course of transfer of the assets of the bicycle company to three parties and have them again transfer it to the new company? A. The Eclipse Bicycle Company moved to Elmira from Pennsylvania where it was incorporated

When it moved its factory to Elmira it was decided proper to incorporate under the laws of the State of New York and on the advice of counsel in Beaver Falls, Pennsylvania, the transfer was made to Fulton, Whittier and Long first, and by them transferred to the Eclipse Bicycle Company of New York, and when the decision was made to incorporated it under the Eclipse Manufacturing Company the same course was followed because it had been adviced by counsel and because it had proved to be correct in every particular.

Q. Were counsel employed at all in preparing the papers for the organization of the manufacturing company? A. Oh, yes.

Q. Where and who? A. In Philadelphia.

Q. Who was the counsel? A. Mr. Stoughton.

Q. What had you to do with that? A. I went to Philadelphia to see Mr. Stoughton to have the charter obtained under which the company was incorporated.

Q. Was Mr. Stoughton engaged except, simply to prepare
572 the papers? A. No sir.

By Mr. EARLE:

Q. I understood you to say that the organization of this new company was considered before this action was brought, did you have local counsel in Elmira? A. We have local counsel there, of course.

A. Did you have any prior to the time this new company was organized? A. For general business, we have local counsel all the time.

Q. You have local counsel there, do you know whether they are aware of this suit? A. I do not know whether they are aware of the suit or not.

Q. Name the firm. A. Reynolds, Stanchfield and Collin.

Q. Are you aware that they participated in this suit to some extent? A. No.

573 FARROW
vs.
ECLIPSE BICYCLE COMPANY.

FRIDAY, *December* 12, 1902.

Hearing pursuant to adjournment.

Present: Mr. Worthington, Mr. Mackall, and Mr. Gittings.

Mr. WORTHINGTON: Counsel for the defendant informs the auditor that a few minutes after the conclusion of the last hearing there was served upon Mr. Whittier the witness who was examined at that hearing just as he was leaving the city hall building while yet in the grounds surrounding the building a summons in a suit instituted on that date by Willard M. Farrow, complainant, against the Eclipse Manufacturing Company, being the corporation of that name referred to in the testimony before the auditor here. I further inform the auditor that the Eclipse Manufacturing Company is about to

move, in the case just referred to, to quash the summons upon the grounds, among other things, that Mr. Whittier was here under an order of the auditor made in this cause and solely for the purpose of giving his testimony pursuant to and in compliance with the order of the auditor and that therefore even if there were no other reasons for quashing the summons it should be quashed on the ground that he was exempt from service of such process at the time it was served upon him.

The auditor is further informed that if the court should not quash the summons referred to the defendant here will move the auditor to strike out all the testimony of Mr. Whittier given on the last hearing here upon the ground that the order of the auditor which brought him here was obtained by fraud in this, that one
574 motive, if not the only motive in obtaining that order from the auditor was the getting of Mr. Whittier into this jurisdiction for the purpose of serving the process upon him as above stated, constituting an abuse of the process of the court in this case to which the court will not submit.

And in order that time may be given to have the proper steps taken to have determination by the court in the case referred to against the Eclipse Manufacturing Company of the validity of the service of such summons upon Mr. Whittier, counsel for the defendant asks the auditor to postpone further proceedings here.

Mr. GITTINGS: I move to strike out said statement from the record on the ground that it is improper, irrelevant and incompetent, has nothing whatever to do with the reference in this cause to the auditor to state the account. The said statement is not true in fact in this, it states that the sole purpose in bringing Mr. Whittier within this jurisdiction was to secure service upon him in the suit against the Eclipse Manufacturing Company, that the record shows that the testimony adduced on cross-examination of Mr. Whittier was relevant and material to the issue before the auditor for determination and in the opinion of counsel contradictory to the affidavit made by Mr. Whittier upon which the rule issued for his appearance was granted, that the fact that the suit has been filed by Mr. Farrow against the Eclipse Manufacturing Company has nothing whatever to do with this case at the present time, that the statement made by the counsel that Mr. Whittier was served in the grounds surrounding the court house, thereby intimating the Government reservation surrounding the court house is untrue in fact;
575 that any motion that counsel may desire to make to the court to quash the service has nothing to do with the jurisdiction or the question before the auditor in the present reference. For these reasons I move that all statements made by counsel at this hearing be stricken, physically, from the record. It is no part of the record, has nothing whatever to do with the accounting and is unprecedented in this jurisdiction or any other jurisdiction, and I don't believe counsel can fortify himself with a single authority where the reference is made to the auditor of the court or a master for the purpose of stating account. If counsel really desire a postponement for

the purpose of contesting the validity of the service in the case filed against the manufacturing company, counsel for the complainant are perfectly willing to acquiesce that a reasonable time shall be allowed, but move that the statements placed upon the record in this case by the counsel is improper and should be stricken out.

The AUDITOR: The auditor over-rules the objection of counsel for the complainant and denies the motion to strike from the record the application of counsel for the defendant for the continuance of this hearing and the notice of motion to be hereinafter made to strike out the testimony of the witness on cross-examination.

Mr. GITTINGS: Counsel for the complainant have no objection to the application for a continuance of the reference for the purpose of a motion to strike out the testimony given by Mr. Whittier, but they think and contend that the application for a continuance for the purpose of a motion to quash the service of the writ on Mr. Whittier in the new case is not proper and merely encumbering the record, we note an exception on the above ground to the ruling of the auditor.

576 Adjournment subject to notice, leaving counsel for each party to move the auditor to proceed with the reference.

577 FARROW
vs.
ECLIPSE BICYCLE COMPANY.

SATURDAY, *January* 10, 1903, at 11 a. m.

Hearing pursuant to notice.
Present: Messrs. Worthington, Mackall and Gittings.

Mr. GITTINGS: Counsel for the complainant now moves the auditor to state the account between the parties on this reference from the testimony which is adduced before him. Counsel for the complainant does not care to further contend in this reference against the defendant for brakes manufactured by the Eclipse Manufacturing Company for the reason that the Eclipse Manufacturing Company has subsequent to this reference gone out of business and transferred its factory and all of its property to the Eclipse Machine Company another corporation, and the Eclipse Bicycle Company also ceased to do business and transferred its business and all of its property. Complainant reserves the right to hereafter bring suit either in this court or elsewhere against the defendant or any other corporation which has consolidated with, been purchased by or absorbed the defendant and reserves the right to bring suit against any of these companies for brakes manufactured and sold by any of them subsequent to June 30, 1900.

Mr. WORTHINGTON: Counsel for the defendant states that since the counsel for the complainant do not ask in this reference for an accounting for deeds done by the Eclipse Manufacturing Company

they consent to the reference being closed and the account stated. They do not however by their silence wish to be understood to acquience in the reasons given by the counsel for the complainant to the action which he takes.

578 EXHIBIT E 13.

Deed.

This indenture, made this twenty-seventh day of June, in the year nineteen hundred, between Eclipse Bicycle Company, of Elmira Heights, Chemung county, New York, a domestice corporation, party of the first part, and H. H. Fulton, D. L. Whittier and A. D. Long, party of the second part.

Witnesseth, that the said party of the first part, for and in consideration of the sum of one dollar, lawful money of the United States, paid by the said party of the second part, does hereby grant and release unto the said party of the second part, its successor, successors and assigns forever.

All that tract or parcel of land, situate in the county of Chemung and State of New York, and forming a part of the Elmira Industrial Association lands, lying in the towns of Elmira and Horseheads (now designated as Elmira Heights) in said county, and particularly described as follows: All of Factory Block B, as laid down and designated upon a map or plot of land of said Elmira Industrial Association, which map or plot is entered and recorded in the records of the clerk's office of Chemung county, and reference thereto is hereby made. Excepting and reserving therefrom, however, the following described premises, viz:

All that tract or parcel of land situate in the town of Horseheads, Chemung county, New York, being part of the James Suffern farm heretofore deeded by the party of the first part to James McCann, by deed dated the twenty-first day of August, eighteen hundred and ninety-five, containing one hundred and thirty-eight one-thou-
579 sandths (138/1000) acres of land, be the same more or less; and being lot No. 52 on Factory Block B on the map; also the unrestricted use and right to all the water on the lands lying west of and adjacent to the last described lot for a distance of fifty feet, and on all lands lying adjacent to and east of said lot for a distance of fifty feet, and

It is hereby covenanted and agreed, that the party of the first part, its successor, successors or assigns, shall not use or take any water from the premises hereby conveyed, nor from the premises lying adjacent thereto, and within fifty feet easterly or westerly therefrom, as above recited, for any reason whatsoever, except by ordinary driven wells, and the said covenants herein contained are hereby made covenants that shall run with the land, and shall bind the heirs, executors, administrators, successors and assigns of the parties hereto, and it is further covenanted and agreed that said James Mc-

Cann may go upon said land for the purpose of repairing or replacing the existing pipes in the spring on the above described lot.

The agreements and covenants herein contained, regarding the said rights of water and privilege of going upon and across the land and to lay the pipes, shall be regarded as easements in the said land and streets, and the covenants herein contained shall be regarded as covenants running with the land.

Also excepting and reserving from the above described premises a portion of lot (29) of said Factory Block B, lying southerly on a line drawn east and west through said lot (29), and parallel with the north line of Eighteenth street and distant one hundred twenty (120) feet from said north line.

580 Together with the appurtenances, and all the estate and right of the said party of the first part in and to said premises.

To have and to hold the above granted premises unto the party of the second part, its successor, successors and assigns forever, and the said Eclipse Bicycle Company does covenant with the said party of the second part as follows:

That the party of the second part shall quietly enjoy the said premises.

That the said Eclipse Bicycle Company will forever warrant the title to said premises.

In witness whereof, the said party of the first part has hereunto set its hand and corporate seal the day and year first above written.

ECLIPSE BICYCLE CO.
[L. S.] H. H. FULTON, *President.*

[U. S. rev. stamp, $27.00, cancelled.]

STATE OF NEW YORK, } ss:
County of Chemung, }

On this 29 day of June, nineteen hundred, Harmon H. Fulton, to me known, came before me, and being by me sworn, did say that he resides in the city of Elmira, and is the president of the Eclipse Bicycle Company; that the seal affixed to the foregoing instrument is the corporate seal of the above corporation, and is hereby affixed by order of board of directors of said company; and that he signthe same as president of the board of directors of said com-

581 pany, by virtue of a like order of said board of directors.

F. E. OLIVER,
[L. S.] *Notary Public.*

Recorded June 30, 1900, 10 a. m.
EDWIN D. BURGESS,
Dep. Clerk. [SEAL.]

STATE OF NEW YORK, } ss:
Chemung Co., Clerk's Office, }

I, Thomas Hibbard, clerk of said county and of all the courts of record thereof (except the surrogate's court) do hereby certify that

I have compared the foregoing annexed copy of deed—Eclipse Bicycle Company to H. H. Fulton & D. L. Whittier & A. D. Long with the original thereof now record- in this office, and that the same is a true transcript of said deed and of the whole thereof.

In witness whereof, I have hereunto set my hand and official seal, at Elmira, N. Y. this 17 day of July, 1901.

[SEAL.] EDWIN D. BURGESS, *D. L. Clerk.*

582 *Exceptions to Auditor's Report by Defendant.*

Filed February 17, 1903.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
THE ECLIPSE BICYCLE COMPANY. } Equity. No. 19095.

Now comes the defendant, The Eclipse Bicycle Company by its solicitors and excepts to the auditor's report filed in this cause on to wit, the fifth day of February, A. D. 1903, upon the grounds following, to wit:

1. Because the auditor has stated in his report, dates from which interest should be allowed on the respective amounts which he finds to be due the complainant by way of royalties. Whereas, all allowance, or reference to allowance of interest is not only beyond the terms and scope of the order of reference, but is inconsistent with the former report of the auditor in the case, and in direct conflict with the record in the case touching the reference before the auditor, in that the exceptions to the former report, on the grounds that the auditor had not allowed interest made by the defendant, were expressly overruled in the order of reference under which the present accounting was had thereby precluding all further consideration of the question of interest.

2. Because interest is not payable nor allowable on the amount of the royalties claimed by the complainant from the dates and on the amounts as stated in said report nor from any date nor on any amount.

583 3. Because even if the allowance of interest were proper, the complainant has through, his solicitors waived any right or claim thereto and is estopped and precluded from making or receiving any allowance of interest.

ECLIPSE BICYCLE CO.,
By A. S. WORTHINGTON,
H. L. OSGOOD,
D. S. MACKALL, *Counsel.*

Order Re-referring Cause to Auditor.

Filed April 14, 1903.

FARROW
vs.
BICYCLE CO. } No. 19095, Eq. Doc. 44.

Ordered that the two reports of the auditor filed herein, be, and they are hereby remanded to the auditor, with instructions that he shall prepare and annex to his last report as part thereof a schedule presenting the figures embodied in each of the said reports, in one statement, so as to comply in form with the order of this court of the 10″ of October 1902.

The auditor is not authorized by this order to make any other changes in his reports. And he is directed to comply with this order, with all convenient speed.

A. B. HAGNER,
Asso. Justice.

11th April, 1903.

584 *Auditor's Report.*

Filed April 15, 1903.

In the Supreme Court of the District of Columbia.

WILLIAM M. FARROW
vs.
ECLIPSE BICYCLE COMPANY. } Equity. No. 19095.

This cause is referred to me to state the account in such form as to include in one complete account the figures set forth in the two accounts heretofore stated by me.

On the 15th of April Messrs. Worthington and Mackall appeared and requested that due notice be given of the time of proceeding under the said order of reference.

As the order of the court limits my duty to the mechanical copying into a single account the figures contained in two former accounts and expressly prohibits any other change I declined to delay the execution of the order.

I have restated the two accounts in one in the schedule herewith. The substitution of the word September for July at the end of the schedule is made in compliance with a request of counsel for the defendant presented to me after the filing of my last report.

JAS. G. PAYNE, *Auditor.*

585 SCHEDULE.

Account of Royalties Owing by the Defendant Eclipse Bicycle Company to the Complainant Willard M. Farrow upon the Devices Described in the Decree of January 31, 1900.

Total sale of said devices to February 17, 1900...	19,232	
Royalties on the first ten thousand at 50 cents each.....		$5,000.00
Ditto on 9,232 at 25 cents each.....		2,308.00
		$7,308.00
Less amount of payments by the defendant in advance according to the provisions of the contract of June 5, 1897.....		2,500.00
Carried forward.....		$4,808.00

586 Account of royalties owing by the defendant to the complainant—Continued.

Amount brought forward..		4,808.00
Total sales of the device described as the Morrow hub-brake to June 30 1900 inclusive.....	116.820	
Royalties on 768 at 25 cents each.....	192.00	
Royalties on ten thousand at 15 cents each.....	1,500.00	
Royalties on 106,052 at ten cents each.....	10,605.20	
Amount due June 30, 1900.....		12,297.20
		$17,105.20

Interest from December 15, 1899 on $2,082.50.
" " March 15, 1900 on 3,682.80.
" " June 15, 1900 on 5,329.40.
" " September 15, 1900 on 1,202.50.

JAS. G. PAYNE, *Auditor.*

[Endorsed:] Farrow. Amended report of auditor.

587 *Defendant's Objections to Hearing, Affidavits, &c.*

Filed April 20, 1903.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
ECLIPSE BICYCLE COMPANY. } In Equity. No. 19095.

We, Douglass S. Mackall and Augustus S. Worthington on oath say as follows;

On the 15th day of April, 1903, we appeared before the auditor, Mr. Gittings, of counsel for the complainant, being present at the time, and informed the auditor that we wished to be heard upon the execution by him of the order of reference of this cause made to him by the court on the 14th day of April, 1903. Mr. Gittings objected to our being heard, insisting that we had no right to be present or to take any action whatever before the auditor, on the ground that the court had referred the matter back to the auditor merely for the purpose of performing a ministerial act in the way of correcting his report. The auditor sustained this objection and refused to comply with our request.

About the time that the auditor filed his amended report, on April 15, 1903, we were each served with a notice, one of which notices is hereto appended, marked Exhibit A, and made part hereof. We have received no other notice and have been advised of no other motion on behalf of the complainant since the
588 filing of said amended report on April 15, 1903.

AUGUSTUS S. WORTHINGTON.
D. S. MACKALL.

Subscribed and sworn to before me this 20th day of April, A. D. 1903.

J. R. YOUNG, *Clerk*,
By HARVEY GIVEN, *Ass't Clerk.*

589 EXHIBIT "A."

Filed April 20, 1903.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
ECLIPSE BICYCLE COMPANY. } Equity. No. 19095.

This cause, coming on to be heard upon the auditor's report filed herein on February 5th, 1903, and the exceptions filed thereto by the defendant on February 17th, 1903, and same having been argued

by counsel for the respective parties and considered by the court, and the said report having been amended by the auditor in accordance with the order of this court of April 4th, 1903, and said amendment filed herein on the 15th day of April, A. D. 1903, it is, therefore, by the court and the authority thereof, this — day of April, A. D. 1903, adjudged, ordered and decreed that all and singular the exceptions filed on behalf of the defendant be and the same hereby are overruled, and the auditor's report be and the same hereby is ratified and confirmed.

And it is further adjudged, ordered and decreed, that the complainant recover against the defendant his costs in and about this suit.

——— ———, *Justice.*

Messrs. Worthington & Mackall, solicitors for defendant.

GENTLEMEN: Please take notice that I shall present the foregoing decree to the court, tomorrow, April 16th, 1903, at ten o'clock a. m. or as soon thereafter as counsel can be heard, and request the court to pass the same.

JOHN C. GITTINGS,
Solicitor for Complainant.

590 *Final Decree.*

Filed April 20, 1903.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
ECLIPSE BICYCLE COMPANY. } Equity. No. 19095.

This cause coming on to be heard upon the auditor's report and schedule, (which schedule was corrected in form, under the order of this court of the 14th instant), and the exceptions filed to said report by the defendant on February 17th, 1903; and all exceptions to each report having previously been argued by counsel for the respective parties and considered by the court, said corrected schedule, filed herein on the 15th day of April, A. D. 1903, being approved by the court, and the matter of the exceptions to the two reports of the auditor having been considered by the court, it is therefore, by the court and the authority thereof, this 20th day of April, A. D. 1903, adjudged, ordered and decreed, that all and singular the exceptions filed on behalf of the defendant to the allowance of the sum of $4,808.00 under the first report, and to the sum of $12,297.20 under the second report, are overruled by the court; and the said corrected schedule, allowing the sum of $17,105.20 against the defendant and the said report incorporating the same, are hereby ratified and confirmed. This decree is signed after the court had become acquainted with the affidavit this day filed on behalf of the defendant.

591 And it is further adjudged, ordered and decreed, that the complainant recover against the defendant his costs in and about this suit.

A. B. HAGNER,
Asso. Justice.

Appeal.

Supreme Court of the District of Columbia.

FARROW
vs.
ECLIPSE BICYCLE CO. } 19095. Equity.

The clerk will please note an appeal in behalf of the defendant from the order entered in this cause on April 20th, 1903.

A. S. WORTHINGTON AND
D. S. MACKALL,
Solicitors for Defendant.

April 22, 1903.

Appeal entered—
BY CLERK.

592 *Order Fixing Am't of Appeal Bond.*

Filed April 24, 1903.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
ECLIPSE BICYCLE CO. } In Equity. No. 19095.

Upon motion of the defendant and after hearing counsel for the complainant, it is this 24th day of April, A. D. 1903, ordered that the penalty of the appeal bond to be given by the defendant, if for costs only shall be two hundred and fifty dollars and if to operate as a supersedeas thirty thousand dollars.

By the court:

A. B. HAGNER,
Asso. Justice.

Order for Citation.

Filed April 25, 1903.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
ECLIPSE BICYCLE CO. } Equity. No. 19095.

The clerk will please issue a citation to the complainant in pursuance of the defendant's appeal to the Court of Appeals in the

above entitled cause from the order in this cause on the 20th day of April, A. D. 1903.

A. S. WORTHINGTON,
D. S. MACKALL,
Solicitors for Defendant.

593 In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
ECLIPSE BICYCLE CO. } No. 19095. In Equity.

The President of the United States to Willard M. Farrow, Greeting:

You are hereby cited and admonished to be and appear at a Court of Appeals of the District of Columbia, upon the docketing the cause therein, under and as directed by the rules of said court, pursuant to an appeal entered in the supreme court of the District of Columbia, on the 22nd day of April, 1903, wherein the Eclipse Bicycle Co. is appellant, and you are appellee, to show cause, if any there be, why the decree rendered against the said appellant, should not be corrected, and why speedy justice should not be done to the parties in that behalf.

Seal Supreme Court of the District of Columbia.

Witness the Honorable Edward F. Bingham, chief justice of the supreme court of the District of Columbia, this 25" day of April in the year of our Lord one thousand nine hundred and three.

JOHN R. YOUNG, *Clerk.*

Service of the above citation accepted this 25 day of April, 1903.

JOHN C. GITTINGS,
Attorney for Appellee.

[Endorsed:] Copy. (34.) No. 19095. Equity. Farrow vs. Eclipse Bicycle Co. Citation.

594 *Memorandum.*

May 12, 1903.—$250. deposited by appellant in lieu of appeal bond.

Designation of Record on Appeal.

Filed May 20, 1903.

In the Supreme Court of the District of Columbia, Holding a Special Term in Equity.

WILLARD M. FARROW
vs.
ECLIPSE BICYCLE CO. } Equity. No. 19095.

To Mr. John R. Young, clerk S. C. D. C.:

We hereby designate the following as the record in this case, which we desire to be included in the transcript of record for the purposes of the appeal from the order or decree of April 20, 1903:

1. Original bill.
2. Contract "Exhibit A" attached to original bill.
3. Demurrer to original bill.
4. Stipulation withdrawing demurrer.
5. Answer to original bill.
6. Replication.

595 7. Supplemental bill.

8. Answer to supplemental bill.
9. Depositions & exhibits.
10. Decree allowing royalties filed, to wit, June 3, 1899.
11. Decree " " " " Feb'y 1, 1900.
12. Appeal to Court of Appeals of February 8, 1900.
13. Mandate of " " " June 1900.
14. Motion, affidavits and exhibits of defendant, for leave to amend answer, take testimony &c.
15. Answer of complainant to defendant's motion for leave to amend &c.
16. Complainant's motion to amend, his answer to motion.
17. Order granting defendant, leave to amend, its answer, take additional testimony &c.
18. Amended answer & exhibits, filed by defendant.
19. Special appeal.
20. Mandate of Court of Appeals.
21. Auditor's first report in full.
22. Exceptions to same by complainant & defendant.
23. Opinion of Justice Hagner, filed October 15, 1902.
24. Decree remanding cause to auditor, overruling exceptions &c.
25. Second report of auditor.
26. Exceptions to by defendant.
27. Order recommitting case to auditor.
28. 3rd report of auditor.
29. Defendant's objections to hearing, affidavits &c.
30. Decree confirming auditor's reports.
31. Appeal.

596 32. Order fixing penalty of appeal bonds.

33. Citation, order for.
34. Citation " "
35. Deposit for costs of appeal under leave of court.

A. S. WORTHINGTON,
Of Counsel for Defendant.

DISTRICT OF COLUMBIA, *ss:*

D. S. Mackall being duly sworn according to law upon oath deposes and says that he served a copy of the foregoing paper upon Jno. C. Gittings, Esq., counsel of record for complainant on May 20, 1903.

D. S. MACKALL.

Subscribed and sworn to before me this 20th day of May, A. D. 1903.

JOHN R. YOUNG, *Clerk.*

597 *Order Extending Time to File Record.*

Filed May 27, 1903.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW *vs.* ECLIPSE BICYCLE CO. } Equity. No. 19095.

It is this 27th day of May, A. D. 1903 by the court ordered that the time for filing the transcript of record for the purposes of the appeal in this cause be and the same hereby is extended until the 30th day of June A. D. 1903, by consent of counsel.

By the court:

A. B. HAGNER.

598 *Order Extending Time to File Transcript of Record.*

Filed June 26, 1903.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW *vs.* ECLIPSE BICYCLE CO. } Equity. No. 19095.

It is this 26th day of June, A. D. 1903 ordered that the time within which the transcript of record, for the purpose of the defendant's appeal shall be filed, be and the same hereby is extended to the 15th day of July, A. D. 1903.

By the court,—

THOS. H. ANDERSON, *Justice.*

I hereby consent to the order—
JOHN C. GITTINGS,
Solicitor for Complainant.

599 Supreme Court of the District of Columbia.

UNITED STATES OF AMERICA, *District of Columbia*, } ss:

I, John R. Young, clerk of the supreme court of the District of Columbia, hereby certify the foregoing pages, numbered from 1 to 598, inclusive, to be a true and correct transcript of the record, as per directions of counsel herein filed, copy of which is made part of this transcript, in cause No. 19,095, in equity, wherein Willard M. Farrow is complainant and The Eclipse Bicycle Company is defendant, as the same remains upon the files and of record in said court.

In testimony whereof, I hereunto subscribe my name and affix the seal of said court, at the city of Washington, in said District, this 14" day of July A. D. 1903.

[Seal Supreme Court of the District of Columbia.]

JOHN R. YOUNG, *Clerk.*

Endorsed on cover: District of Columbia supreme court. No. 1351. Eclipse Bicycle Company, appellant, *vs.* Willard M. Farrow. Court of Appeals, District of Columbia. Filed Jul- 14, 1903. Robert Willett, clerk.

ADDITION TO RECORD PER STIPULATION OF COUNSEL.

COURT OF APPEALS OF THE DISTRICT OF COLUMBIA.

OCTOBER TERM, 1903.

No. 1351.

ECLIPSE BICYCLE COMPANY, APPELLANT,

vs.

WILLARD M. FARROW.

FILED NOVEMBER 20, 1903.

In the Court of Appeals of the District of Columbia, October Term, 1903.

ECLIPSE BICYCLE COMPANY, Appellant,
vs.
WILLARD M. FARROW, Appellee. } No. 1351.

Stipulation.

It is hereby stipulated and agreed:—

1.

That the first report of the auditor in this case was based upon an account filed by the defendant showing that the defendant had made and sold sixty-eight (68) automatic coaster- and brakes under the complainant's application for patents, and had made and sold 19164 brakes under letters patent granted to A. P. Morrow No. 611,073; that said Farrow brakes were sold between June 30, 1897, and October 19, 1897; and that said Morrow brakes were sold between October 8th 1897 and January 17, 1900.

2.

That exceptions were duly filed to said first report of the auditor by and on behalf of the defendant, The Eclipse Bicycle Company; that said exceptions were by inadvertence overlooked by the clerk of the supreme court of the District of Columbia in making up the record in this case; and that a true copy of said exceptions is hereto appended and made part hereof.

3.

That the final report of the auditor in this case was made up from the account above mentioned and from another account which was filed by the defendant after the case had been re-referred to the auditor; and that by said second account it appeared that the defendant had made and sold 109,039 brakes of the kind represented by Exhibit E 10 in this case; and that said last mentioned sales were made between the 22nd day of June 1899 and the 30th day of June 1900; and in addition thereto the defendant had manufactured 7,781 brakes of the kind represented by Ex. E 10 which the defendant had on hand at the close of business June 30, 1900 and disposed of to the Eclipse Manufacturing Company.

4.

That true copies of the petition of the defendant for a re-hearing filed in this cause in June 1899 and the order based thereon passed in this cause on June 19, 1899 are hereto annexed.

5.

That this stipulation and the copies of the exceptions, petition for re-hearing and order based thereon hereto appended may be filed and taken and considered as a part of the record in this case.

D. S. MACKALL,
Of Counsel for Appellant.
JOHN C. GITTINGS,
Of Counsel for Appellee.

Filed June 20, 1902. J. R. Young, Clerk.

In the Supreme Court of the District of Columbia, Holding a Special Term in Equity.

WILLARD M. FARROW, Plaintiff,
vs.
THE ECLIPSE BICYCLE COMPANY, Defendant. } In Equity. No. 19095.

Now comes the defendant, The Eclipse Bicycle Company, by its counsel, and excepts to the report of the auditor of this court filed

in this cause on or about the 2d day of June, A. D. 1902, upon the grounds following, to wit:

1. Because the auditor admitted in evidence the device marked "Ex. E. No 10" over the objection of defendant's counsel. (A. R. p. 22.)

2. Because the auditor (A. R. p. 22) permitted the witness Doolittle to testify over the objection of counsel for the defendant as to whether he found "Ex. E No. 10" described in detail in Farrow application No. 600359.

3. Because the auditor denied the defendant's motion to strike out the testimony of the witness Doolittle (A. R. p. 26) wherein he was allowed to compare "Ex. E 10" with the alleged Farrow device and claims.

4. Because the auditor over the objection of defendant's counsel (A. R. p. 27) permitted the witness McGill to state whether or not he found in Ex. E 10 the general characteristics of the device operated upon the principles of the invention mentioned in application No. 600359.

5. Because the auditor (A. R. p. 28) refused to sustain the objection of defendant's counsel to the answer of the witness McGill in reply to the above question.

6. Because the auditor permitted the complainant Farrow over the objection of defendant's counsel to be asked whether or not he made a model of the device described in his application No. 600359.

7. Because the auditor rejected the defendant's offer to introduce in evidence (A. R. p. 59) the Hiller patent No. 422781, dated March 4, 1890, and the Courtland patent No. 520728, dated May 29, 1894. Also certified copy from the bound volumes of the library of the United States Patent Office of the provisional and complete specifications and drawings of the Edge British patent No. 295, dated January 2, 1884.

8. Because the auditor rejected the offer of defendant (A. R. p. 63) to introduce in evidence certified copies from the bound volumes of the library of the United States Patent Office of the provisional and complete specifications and drawings of the English letters patent to Louis O. Michel, application dated September 3, 1894, No. 16732. Also patent to Alfred Julius Boult, No. 597, dated January 12, 1891. Also certified copy of letters patent No. 527751 to George E. Whitney dated October 16, 1894. Also certified copies from bound volumes of the library of the United States Patent Office of the provisional and complete specifications and drawings of the English letters patent to John Watkins, No. 400169, dated February 29, 1884.

9. Because the auditor (A. R. p. 77) again declined and refused to grant the offer of defendant's counsel which, was then and there renewed, to introduce in evidence the above mentioned and referred to patents and certified copies thereof.

10. Because the auditor (A. R. p. 79) again declined and refused

to grant the defendant's offer, then and there renewed, to introduce in evidence the above mentioned and referred to patents.

11. Because the auditor (A. R. p. 87) over the objection of defendant's counsel granted complainant's motion to strike out the portion of the witness Brown's answer to a question by complainant's counsel.

12. Because the auditor (A. R. p. 91, 93 & 95) over the objection of defendant's counsel permitted the witness Brown, on cross examination, to be asked incompetent, improper and immaterial questions, as will appear by reference to the auditor's report herein referred to.

13. Because the auditor (A. R. p. 113) declined and refused to permit the witness Foster to answer a question propounded by defendant's counsel, as will appear by reference to the record referred to.

14. Because the auditor (A. R. p. 125) permitted the witness Foster, over the objection of defendant's counsel, to answer a question on cross examination.

15. Because the auditor (A. R. p. 138, 140, 141) declined and refused to permit the witness Foster, in response to questions propounded by defendant's counsel, to testify as to the prior state of the art at the date of the Farrow applications.

16. Because the auditor, over the objections of defendant's counsel, declined and refused to receive testimony material and relevant to the issues under the reference in this cause, which was duly and properly offered by the defendant.

17. Because the auditor, over the objection of defendant's counsel, permitted the complainant to introduce testimony which was irrelevant, immaterial and incompetent upon any issue created by the reference to the auditor in this case.

18. Because the complainant, for the purpose of depriving the defendant of its right of appeal in this case, to the Supreme Court of the United States, waived any claim to interest on the amount which the auditor has found to be due from the defendant to the complainant, and the auditor thereupon allowed no interest on such amount, whereas the auditor should have allowed interest (at least) from the date, of the filing of the original bill in this cause, to wit, February 28, 1898.

19. Because the complainant, for the purpose of depriving the defendant of its right of appeal in this case, to the Supreme Court of the United States, waived any claim to interest on the amount which the auditor has found to be due from the defendant to the complainant, and the auditor thereupon allowed no interest on such amount, whereas the auditor should have allowed interest, at least, from the date of the interlocutory decree passed in this cause, to wit, February 1, 1900.

20. Because the complainant, for the purpose of depriving the defendant of its right of appeal in this case, to the Supreme Court of the United States, waived any claim to interest on the amount which the auditor has found to be due from the defendant to the

complainant, and the auditor thereupon allowed no interest on such amount, whereas the auditor should have allowed interest, at least, from the date of the filing by the defendant of its account upon which the auditor basis his report against the defendant, to wit, the 31st day of May, 1901.

ECLIPSE BICYCLE COMPANY,
By A. S. WORTHINGTON,
H. L. OSGOOD, &
D. S. MACKALL, *Its Solicitors.*

A true copy.
Test:

[Seal Supreme Court of the District of Columbia.]

J. R. YOUNG, *Clerk,*
By R. J. MEIGS, JR., *Ass't Clerk.*

In the Supreme Court of the District of Columbia.

MILLARD F. FARROW
vs.
ECLIPSE BICYCLE COMPANY. } In Equity. No. —.

Now comes the defendant by its attorneys and respectfully moves this honorable court (1) to grant it a rehearing of this cause and (2) to permit this defendant to introduce evidence if necessary to prove that this defendant was not aware at the date of the contract between the complainant and this defendant, that the claims made by the complainant in his application for letter- patent were anticipated by the Stover and Hance and other patents, but that on the contrary this defendant was at the time of entering into such contract ignorant of the existence of said Stover and Hance patent, and entered into said contract on the faith of the representations made by Farrow that he was the original inventor of the ideas and devices claimed in his applications, and that he would secure broad patents covering his claims; and as grounds for this motion submits the following:

First. The decision of the court is based on a construction of the contract which was not referred to in the argument and is based upon the theory that the defendant had knowledge of the existence of the Stover and Hance patent, while the facts can easily be shown to be the contrary.

Second. Because if it be true as claimed by the defendant, that in entering into said agreement, it was understood that they were to secure broad and valuable patent rights all of which had been, without their knowledge anticipated by prior patent or patents, then there was a total failure of the consideration for said agreement, and the decree of the court in this cause would be a great injustice and hardship upon the defendant.

Third. Because the Patent Office rejected the claim of Farrow, not only because of the existence of the Stover and Hance patent, but because of the applications of Phillip *et al.*, referred to in the interference proceedings. That both the expert witnesses in this case agree that it could not be determined whether Farrow's claims would be granted until after the proceedings in interference had been determined.

Fourth. Because of errors of law.

Fifth. Because of the facts set forth in the accompanying affidavit.

Sixth. Because of surprise, mistake and newly discovered evidence.

____ ____,

Sol'rs for Defendant.

Personally appeared before me, a notary public in and for the county of Chemung, State of New York, Harmon H. Fulton president of the Eclipse Bicycle Company and Alexander P. Morrow, superintendent of the aforesaid company, both having their residence in Elmira, New York, and made oath that at the time a certain contract was entered into by and between the Eclipse Bicycle Company, party of the first part and Willard M. Farrow, party of the second part, which contract was dated the 5th day of June 1897, that the aforesaid Harmon H. Fulton and Alexander P. Morrow were utterly ignorant of any patents relating to coasters and brakes that had ever been issued to any person or persons.

The said Harmon H. Fulton and Alexander P. Morrow further testify that they never heard of any other patent for coaster and brake than the one that they were undertaking to manufacture under Farrow's application for patent until their attention was called, through a letter written by Farrow under date of July 30, 1897, to a device "covered by patent already granted, the 4th claim of which is very broad."

The said Morrow and Fulton further swear that it was not until after this that they knew what this patent was, and after communicating with their patent attorney, Mr. Jas. L. Skidmore of Washington, D. C., who informed them for the first time that it was the Stover and Hance patent; that the said Skidmore in making his examination of the Farrow application to see if it infringed any other coaster and brake letters patent overlooked the Stover and Hance patent, as the said Skidmore stated the patent was listed under the head of bicycles instead of brakes, or coasters and brakes, and that he himself had not known anything about it until his attention was called to the fact by the said Farrow.

The said Harmon Fulton swears that the said Farrow represented to him that he was the original inventor of a coaster and brake.

In witness whereof the parties hereunto have set their seals this 31st day of May 1899.

(Signed) HARMON H. FULTON.
ALEXANDER P. MORROW.

[SEAL.] F. E. OLIVER, *Notary Public.*

Affidavit.

DISTRICT OF COLUMBIA, *ss:*

I, James L. Skidmore being first duly sworn according to law do upon oath depose and state that I am the same person who appeared as a witness for the complainant in the case of Farrow *vs.* The Eclipse Bicycle Co. equity No. — in the supreme court of the District of Columbia. That I testified on page 25 of my testimony distinctly that I did not report the Stover and Hance patent to the defendant company pursuant to the making of the agreement between the complainant and the defendant company referred to in said cause. That at the date of said agreement I had not even read the specifications and claims of the Stover and Hance patent and did not read or report on the same for a considerable length of time after said agreement had been entered into. Mr. Farrow claimed to be the original inventor of the broad idea of applying the brake to a bicycle tire by back peddling and that he was entitled to a patent covering broadly and generally such alleged invention, and it was upon the faith of his representation and his claims in this regard that the company entered into said agreement. That subsequently to the making of said agreement it was discovered that his claims were not only dominated by the Stover and Hance patent, but it was also demonstrated in the interference proceedings in the Patent Office that his particular construction had been anticipated by an application made by one Phillips and referred to in said interference proceedings.

JAS. L. SKIDMORE.

Subscribed and sworn to before me this 2nd day of June, A. D. 1899.

A. D. BLACKSTONE,
Notary Public.

In the Supreme Court of the District of Columbia.

MILLARD F. FARROW
vs.
ECLIPSE BICYCLE COMPANY. } Equity. No. 19095.

Upon consideration of the defendant's petition for a rehearing in this case, it is this 19th day of June 1899 ordered that the prayer of said petition for a rehearing be and the same is hereby granted as to the question of the construction of the contract between the parties mentioned in the bill upon the evidence now in the record, but that the prayer of said petition for leave to take further evidence is denied; and it is further ordered that the complainant be

and he hereby is allowed to amend his original bill, filed in this cause, by inserting in said bill a formal prayer for an injunction.

It is further ordered that this cause be placed on the calendar for the October term of court.

CHAS. C. COLE,
Asso. Justice.

[Endorsed:] No. 1351. Eclipse Bicycle Company, appellant, vs. Willard M. Farrow. Addition to record per stipulation of counsel. Court of Appeals, District of Columbia. Filed Nov. 20, 1903. Robert Willett, clerk.

WEDNESDAY, *March 16th, A. D.* 1904.

ECLIPSE BICYCLE COMPANY, Appellant,
vs.
WILLARD M. FARROW. } No. 1351.

The argument in the above entitled cause was commenced by Mr. A. S. Worthington, attorney for the appellant, and was continued by Mr. John C. Gittings, attorney for the appellee.

THURSDAY, *March 17th, A. D.* 1904.

ECLIPSE BICYCLE COMPANY, Appellant,
vs.
WILLARD M. FARROW. } No. 1351.

The argument in the above entitled cause was continued by Mr. John C. Gittings, attorney for the appellee, and was concluded by Mr. C. Schuyler Davis, attorney for the appellant.

THE ECLIPSE BICYCLE COMPANY, Appellant,
v.
WILLARD M. FARROW. } No. 1351.

Opinion.

Mr. Justice MORRIS delivered the opinion of the court:

This case has twice before been in this court. The result on the first occasion is found reported in 16 D. C. App. 468; that of the second appeal is 18 D. C. App. 101. As in the opinions then filed the facts of the case down to the time of the later report have been sufficiently stated, it is needless to repeat them here.

After the decision of this court on the second appeal and the remanding of the cause to the court below for further proceedings therein, the case went to the auditor of that court for the accounting which had been ordered. The auditor on June 2, 1902, filed a report in which he found the sum of $4,808 due from the defendant, the appellant here, to the appellee. Exceptions were taken to the report by both parties, one by the complainant, which was sustained by the court, and seventeen by the defendant, which were all overruled, and the cause was remanded to the auditor with directions to restate the account in accordance with the claim of the complainant in the exception which had been sustained. This was done and the auditor made a second report, wherein he found a further sum of $12,297.20 due from the defendant to the complainant with interest on the several instalments thereof from certain specified dates. Again there were exceptions filed by the defendant, which do not seem to have been formally acted upon by the court at the time, but

the cause was again sent back to the auditor for the purpose of consolidating his two reports into one. He thereupon filed a third report, in which he found the sum of $17,105.20 to be due from the defendant to the complainant with interest on various instalments thereof as in the second report. The court then considered the exceptions that had been filed to the second report and ratified and confirmed the auditor's third report, which allowed the sum of $17,105.20 against the defendant, and it adjudged that the complainant should recover costs from the defendant. It did not in terms adjudge that the defendant should pay the amount found due by the auditor's report or that the complainant should recover the same against the defendant.

From this decree the defendant company has appealed to this court.

It has been suggested in argument, although neither side insists upon the point, that possibly the decree of the court below is not final, inasmuch as it fails to adjudge that the complainant should recover from the defendant the amount found due by the auditor. But since it is desirable that the cause should go to the court of last resort, there to be finally determined, with as few technicalities as possible to obstruct or postpone such final determination, we think that this difficulty, if difficulty it is, may be obviated, under the authority vested by the law in this court to *modify*, as well as to affirm or reverse the judgments and decrees of the court below, by the addition in our decree in the premises of a clause to the effect that the complainant should be entitled to such recovery; and this will accordingly be done.

The original decree of the supreme court of the District of Columbia, which was rendered on February 1, 1900, and which was affirmed by this court (16 D. C. App. 468), adjudged and decreed that the defendant should account to the complainant, under the contract between them, for royalties upon all devices manufactured by the defendant company which embodied the inventions of the complainant mentioned in two applications for patents filed by him; and also for royalties upon all devices manufactured by them under letters patent No. 611,073, granted to Alexander Morrow on September 20, 1899, which, although patentably somewhat different from the complainant's devices, was held by that court and by this court to have been in the hands of the defendant company a merely colorable and fraudulent evasion of the rights of the complainant under his contract with the company. Confining himself to a strict compliance with the terms of this decree, the auditor found the amount due from the defendant to the complainant to be the sum of $4,808; and this, as already stated, was the substance of his first report.

But in the course of the testimony taken before him during that audit the fact was developed that some time in 1900 or 1901, after the rendition of the first decree of the court below, which directed an accounting, the defendant company, with the evident purpose of escaping further accountability, had discarded the manufacture both

of the devices of the Farrow applications and the device of the Morrow patent No. 611,073, and was manufacturing another device, also produced by Morrow, who still remained the superintendent of the defendant company, designated in the record as "Exhibit E 10," by which name we will also call it. This Exhibit E 10, as testified by two expert witnesses, has the same general characteristics as one of the Farrow devices, and effects the same result. Other experts testify that it is patentably different. It was contended before the auditor by counsel for the complainant that this should enter into the accounting. The auditor declined to admit it, but the court overruled him and ordered the second audit for the purpose of having it taken into the account. It was for the use by the defendant company of this later device that the sum of $12,297.20 was found to be due to the complainant, and the present controversy is over the allowance of this sum. For it is conceded that if the original decree is right the accounting in the first audit is right, and there is at least the sum of $4,808 due from the defendant to the complainant. The question for our present determination is whether the complainant should be allowed royalties for the manufacture by the defendant company of the device of "Exhibit E 10."

The case has been argued before us on behalf of the defendant, mainly upon the theory that this is like a case of infringement of patent, or a case of patentable novelty wherein it is sought to be shown that some apparently new thing is patentably different from some old device. This is a wholly erroneous theory of the case. We believe that it was admitted that the device of the Morrow patent, No. 611,073, was patentably different from the devices of the Farrow applications; and yet it was held that, in view of the contract between the parties by which the defendant company had effectively tied the hands of Farrow, its manufacture of the Morrow device of the patent No. 611,073 was virtually a fraud upon him. The ground of accountability under the contract is not that the Farrow and the Morrow devices are patentably identical, for they are not, but that the manufacture of any other devices by the defendant company, in evasion of its contract with Farrow, is a fraud upon the latter for which the company should account. If the contract had been in express terms that, in consideration of the assignment of his inventions by Farrow to the company, the latter would manufacture his devices exclusively, and no other, and should pay royalties to him therefor; and if thereafter, finding something that suited them better at less price, the company should disregard the agreement, discard the Farrow devices, and manufacture only the new device that had been found, can it be supposed for a moment that the company would thereby escape liability under the contract? But this is substantially the case under consideration. It is a case where equity will pursue a fraud whatever guise it takes.

In this view of the case there is no reason why the defendant company should not account to the complainant for its manufacture of

the device of "Exhibit E 10," as well as for the device of the Morrow patent No. 611,073.

But the question remains whether this can properly be done without the filing of a supplemental bill, inasmuch as the decree referring the cause to the auditor refers to him only in terms the devices of the Farrow application and the device of the Morrow patent, No. 611,073. It would probably have been more regular to bring this "Exhibit E 10" into the case by means of a supplemental bill. But after all it is only a matter of accounting, and under the testimony taken and the exceptions filed, and the second reference to the auditor, the defendant had ample notice of the complainant's claim with regard to this "Exhibit E 10," and had ample opportunity to contest the complainant's right in reference thereto, and, in fact, it took testimony to show that there should be no accounting for the use of this device. Even if the more regular course would have been to file a supplemental bill for the manufacture of "Exhibit E 10," it is not apparent that the interest of justice would be subserved by remanding the cause for that purpose. It is a case in equity. We have the substance here. It is unnecessary to delay the final determination of the cause for mere matter of form, which might even now be allowed to be introduced if it were needed.

A question is made in regard to the allowance of interest on the amount found due on account of "Exhibit E 10," when interest had been waived, as it seems, on the $4,808 found due on the first audit. Whatever may have been the purpose of the complainant in waiving interest under the first audit, we see no inconsistency in his claim and allowance of interest under the second audit. We are not disposed to interfere with the decree on this account.

On the whole, we find no error in the decree appealed from for which it should be reversed. But, as we have already intimated, in order that the cause may be presented to the court of last resort in what seems to us somewhat better shape, we will modify the decree by the insertion of the words following, after the part confirming and ratifying the auditor's report: "And it is further ordered, adjudged, and decreed that the complainant do recover from the defendant the said sum of $17,105.20, with interest on $2,082.50 thereof, from December 15, 1899; and on $3,682.80 thereof from March 15, 1900; and on $5,329.40 thereof from June 15, 1900; and on $1,202.50 thereof from July 15, 1900." And thus modified it will be affirmed, with costs.

And it is so ordered. Affirmed.

TUESDAY, *April 5th, A. D.* 1904.

ECLIPSE BICYCLE COMPANY, Appellant, vs. WILLARD M. FARROW. } No. 1351. April Term, 1904.

Appeal from the Supreme Court of the District of Columbia.

This cause came on to be heard on the transcript of the record from the Supreme Court of the District of Columbia, and was argued by counsel. On consideration whereof, it is now here ordered, adjudged, and decreed by this court that the decree of the said supreme court in this cause be, and the same is hereby, modified by the insertion of the words following, after the part confirming and ratifying the auditor's report—"And it is further ordered, adjudged and decreed that the complainant do recover from the defendant the said sum of $17,105.20, with interest on $2082.50 thereof from December 15, 1899; and on $3682.80 thereof from March 15, 1900; and on $5329.40 thereof from June 15, 1900; and on $1202.50 thereof from July 15, 1900." And thus modified it will be affirmed, with costs.

Per MR. JUSTICE MORRIS.

April 5, 1904.

WEDNESDAY, *April 13th, A. D.* 1904.

ECLIPSE BICYCLE COMPANY, Appellant, vs. WILLARD M. FARROW. } No. 1351.

On motion of Mr. S. C. Peelle, on behalf of counsel for the appellant in the above entitled cause, it is ordered by the court that said appellant be allowed an appeal to the Supreme Court of the United States on giving bond for costs in the sum of three hundred dollars.

Court of Appeals, District of Columbia, April Term, 1904.

ECLIPSE BICYCLE CO., Appellant, vs. WILLARD M. FARROW, Appellee. } No. 1351.

Now comes The Eclipse Bicycle Company, the appellant, by its attorneys and shows unto this honorable court as follows:

1. The appeal in this case was from a decree of the supreme court of the District of Columbia, confirming an auditor's report Counsel for the appellant suggested to counsel for Farrow, that as a question might arise as to the finality of said decree, it would be well for them to have another decree entered in the case, which would remove all doubt on this point; counsel having declined to adopt such suggestion and the appellant fearing that said decree might be regarded as a final decree, notwithstanding its form prosecuted this

appeal therefrom, and in the meantime, no supersedeas bond having been given by the appellant; counsel for appellee proceeded promptly to enforce said decree by causing an execution to issue thereon, which was actually done.

When the appeal came on for hearing in this court, the question as to whether the decree appealed from was a final decree, was again suggested, and this court in its opinion disposed of this matter as counsel for the appellant understands the opinion of this court, by making an addition to the decree below, and as thus modified by affirming the decree, to the end that the decree of this court should be a final decree in the case.

Thereafter, the mandate of this court was issued and counsel for the appellee have applied to the supreme court of the District to enter another decree in the case, and Mr. Justice Gould has stated to counsel that under the mandate of this court he will enter another decree in the form hereto annexed, unless instructed by this court in the premises, in which event, counsel will be at once confronted with the following situation, in its desire to have this case reviewed by the Supreme Court of the United States.

If the decree appealed from was not a final decree, then this court was without jurisdiction and there is no final decree in the case. In that event the decree now proposed to be made by the supreme court of the District will be the final decree in the case, and to protect itself the appellant must incur the expense and delay of another appeal from that decree of this court.

On the theory that this court has itself finally disposed of the case by adopting the decree of the lower court as modified by it, as the final judgment or decree of this court, there has been noted and allowed by this court an appeal to the Supreme Court of the United States, and this appellant should not be required to prosecute its appeal from what this court intends to be a single decree.

Wherefore, the appellant prays:

1. That the mandate of this court be recalled forthwith, to the end that this court may consider the matters herein set forth, in advance of any action by the court below.

2. That in the event, that this court shall be of opinion that the decree on which the appeal in this case was heard was not a final decree, then that said appeal be dismissed for want of jurisdiction.

3. That in the event that this court is of the opinion that said decree is a final decree, and that said decree as modified by this court is to stand as the judgment or decree of this court, then that the mandate of this court may be so amended as to advise the court below that no further decree is to be made by that court.

4. That this appellant may have such other and further relief in the premises as justice may require.

ECLIPSE BICYCLE CO.,
By D. S. MACKALL.

A. S. WORTHINGTON,
D. S. MACKALL,
Attorneys for Appellant.

DISTRICT OF COLUMBIA:

— D. S. Mackall being first duly sworn do upon oath depose and say that I have read the foregoing petition by the Eclipse Bicycle Company, by me subscribed, that the facts therein stated are true to the best of my knowledge and belief, and that this application is not made for purposes of delay.

D. S. MACKALL.

Subscribed and sworn to before me this 4th day of May A. D. 1904.

[SEAL.] LUCAS P. LOVING,
Notary Public, D. C.

(Endorsed:) No. 1361. Eclipse Bicycle Co., appellant, *vs.* Willard M. Farrow. Petition to recall mandate &c. Court of Appeals District of Columbia. Filed May 4, 1904, Henry W. Hodges, clerk.

WEDNESDAY, *May 4th, A. D.* 1904.

ECLIPSE BICYCLE COMPANY, Appellant,
vs.
WILLARD M. FARROW. } No. 1351.

The petition to recall the mandate in the above entitled cause was submitted to the consideration of the court by Mr. D. S. Mackall, of counsel, in support of petition, and by Mr. J. C. Gittings in opposition thereto.

WEDNESDAY, *May 4th, A. D.* 1904.

ECLIPSE BICYCLE COMPANY, Appellant,
vs.
WILLARD M. FARROW. } No. 1351.

The foregoing application is refused. The appeal taken to this court from the court below was upon the theory that the decree of that court was final; and we have so regarded it, although, for abundant caution we have modified it, and have affirmed it as modified. Our decree of affirmance is a final decree, and it is to be so regarded.

By the court,

M. F. MORRIS,
Associate Justice.

Court of Appeals, District of Columbia.

ECLIPSE BICYCLE COMPANY, Appellant,
vs.
WILLARD M. FARROW. } No. 1351.

Now comes the appellee, Willard M. Farrow, by and through his solicitor, and objects to the approval of the appeal bond filed in this cause upon the following grounds, viz.

1. That the record in this cause conclusively establishes the fact, that, the Eclipse Bicycle Company is no longer in existence, having voluntarily dissolved more than three years prior to the filing of the bond in this cause, which purports on its face to be an act of an existing corporation.

2. That the bond filed in the cause shows on its face that it was executed by an officer of a corporation who has no authority in law to execute a bond.

JOHN C. GITTINGS,
Solicitor for Appellee.

(Endorsed:) No. 1351. Court of Appeals District of Columbia. Eclipse Bicycle Co. appellant *vs.* Willard M. Farrow. Appellee's objections to approval of appeal bond. Court of Appeals, District of Columbia. Filed May 10, 1904. Henry W. Hodges, clerk.

TUESDAY, *May* 10*th*, *A. D.* 1904.

ECLIPSE BICYCLE COMPANY, Appellant,
vs.
WILLARD M. FARROW. } No. 1351.

Mr. D. S. Mackall, of counsel for the appellant in the above entitled cause, submitted for the consideration of the court the bond on appeal to the Supreme Court of the United States, which was approved and ordered filed.

(*Bond on Appeal.*)

Know all men by these presents, that we, Eclipse Bicycle Company, as principal, and the United States Fidelity and Guaranty Co., a corporation of the State of Maryland, as surety, are held and firmly bound unto Willard M. Farrow in the full and just sum of three hundred ($300.00) dollars, to be paid to the said Willard M. Farrow, his certain attorney, executors, administrators, or assigns; to which payment, well and truly to be made, we bind ourselves, our heirs, executors, and administrators, jointly and severally, by these presents.

Sealed with our seals and dated this 16th day of April, in the year of our Lord one thousand nine hundred and four.

Whereas, lately at a Court of Appeals of the District of Columbia in a suit depending in said court between Eclipse Bicycle Company, appellant, and Willard M. Farrow, appellee, a decree was rendered against the said Eclipse Bicycle Company, and the said Eclipse Bicycle Company having prayed and obtained an appeal to the Supreme Court of the United States to reverse the decree in the aforesaid suit, and a citation directed to the said Willard M. Farrow, citing and admonishing him to be and appear at a Supreme Court of the United States at Washington, within thirty days from the date thereof:

Now, the condition of the above obligation is such, that if the said Eclipse Bicycle Company shall prosecute said appeal to effect, and answer all damages and costs if it fail to make its plea good, then the above obligation to be void; else to remain in full force and virtue.

[Seal of Eclipse Bicycle Co.]

ECLIPSE BICYCLE CO., [SEAL.]
By D. L. WHITTIER, *Treas.* [SEAL.]
THE UNITED STATES FIDELITY
& GUARANTY CO., [SEAL.]
By J. S. SWORMSTEDT, *Attorney in Fact.* [SEAL.]

[Seal of United States Fidelity & Guaranty Co.]

Sealed and delivered in presence of—
A. P. MORROW.
RALPH D. WEBSTER.

Approved by—
M. F. MORRIS,
Associate Justice, Court of Appeals
of the District of Columbia.

[Endorsed:] No. 1351. Eclipse Bicycle Co., appellant, *vs.* Willard M. Farrow. Bond on appeal to Supreme Court of the United States. Court of Appeals, District of Columbia. Filed May 10, 1904. Henry W. Hodges, clerk.

UNITED STATES OF AMERICA, *ss:*

To Willard M. Farrow, Greeting:

You are hereby cited and admonished to be and appear at a Supreme Court of the United States, at Washington, within 30 days from the date hereof, pursuant to an order allowing an appeal, filed in the clerk's office of the Court of Appeals of the District of Columbia, wherein Eclipse Bicycle Company is appellant and you are appellee, to show cause, if any there be, why the decree rendered against the appellant, should not be corrected, and why speedy justice should not be done to the parties in that behalf.

Witness the Honorable M. F. Morris, associate justice of the Court of Appeals of the District of Columbia, this 10th day of May, in the year of our Lord one thousand nine hundred and four.

M. F. MORRIS,
Associate Justice of the Court of Appeals of the District of Columbia.

Services accepted May 10th / 04
JOHN C. GITTINGS,
Sol. for Appellee.

[Endorsed :] Court of Appeals, District of Columbia. Filed May 10 1904 Henry W. Hodges, clerk.

Court of Appeals of the District of Columbia.

I, Henry W. Hodges, clerk of the Court of Appeals of the District of Columbia, do hereby certify that the foregoing printed and type written pages numbered from 1 to 445 inclusive, contain a true copy of the transcript of record and proceedings of said Court of Appeals in the case of Eclipse Bicycle Company, appellant *vs.* Willard M. Farrow No. 1351, April term, 1904, as the same remains upon the files and records of said Court of Appeals.

In testimony whereof I hereunto subscribe my name and affix the seal of said Court of Appeals, at the city of Washington, this 27th day of May A. D. 1904.

[Seal Court of Appeals, District of Columbia.]

HENRY W. HODGES,
Clerk of the Court of Appeals of the District of Columbia.

Endorsed on cover: File No. 19,383. District of Columbia Court of Appeals. Term No. 283. Eclipse Bicycle Company, appellant, *vs.* Willard M. Farrow. Filed June 1, 1904. File No. 19,383.

TRANSCRIPT OF RECORD

TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, ~~1904~~ 1905.

No. ~~503~~ 217.

ECLIPSE BICYCLE COMPANY, APPELLANT,

vs.

WILLARD M. FARROW.

APPEAL FROM THE COURT OF APPEALS OF THE DISTRICT OF COLUMBIA.

FILED MARCH 29, 1905.

(19,691.)

(19,691.)

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1904.

No. 591.

ECLIPSE BICYCLE COMPANY, APPELLANT,

vs.

WILLARD M. FARROW.

APPEAL FROM THE COURT OF APPEALS OF THE DISTRICT OF COLUMBIA.

INDEX.

	Original.	Print.
Caption	1	1
Index	2	1
Transcript from the supreme court of the District of Columbia	3	1
Record on former appeal (omitted in printing)	4	—
Mandate from Court of Appeals	444	2
Decree on mandate, May 4, 1904	446	3
Appeal to Court of Appeals, May 4, 1904	447	4
Order fixing penalty of appeal bond	448	5
Order for citation on appeal	448	5
Citation on appeal	449	5
Bond on appeal	450	6
Objections to approval of bond	451	7
Agreement as to transcript on appeal	452	8
Clerk's certificate	453	8

JUDD & DETWEILER (INC.), PRINTERS, WASHINGTON, D. C., APRIL 10, 1905.

	Original.	Prin
Endorsement on transcript	454	9
Minute entry of submission of motion to affirm	455	9
Opinion	455	9
Decree	456	9
Order allowing appeal	456	10
Objection to approval of appeal bond	457	10
Appeal bond	458	10
Citation and service	459	11
Clerk's certificate	460	12
Stipulation to print only the parts of the record not already printed in case No. 283, October term, 1904	461	12

1 TRANSCRIPT OF RECORD.

Court of Appeals, District of Columbia, April Term, 1904.

ECLIPSE BICYCLE COMPANY, Appellant,
vs.
WILLARD M. FARROW. } No. 1434.

Appeal from the Supreme Court of the District of Columbia.

Filed June 2, 1904.

2 Court of Appeals of the District of Columbia, April Term, 1904.

ECLIPSE BICYCLE COMPANY, Appellant,
vs.
WILLARD M. FARROW. } No. 1434.

Appeal from the Supreme Court of the District of Columbia.

Index.

Caption	
Mandate	1
Decree on mandate	3
Appeal	5
Penalty of appeal bond fixed	5
Citation ordered	6
Citation	7
Appeal bond	8
Objections to approval of appeal bond	9
Stipulation as to transcript	10
Clerk's certificate	11
Former transcript	

3-443 Supreme Court of the District of Columbia.

WILLARD M. FARROW, Complainant,
vs.
ECLIPSE BICYCLE COMPANY, Defendant. } No. 19095. In Equity.

UNITED STATES OF AMERICA,
District of Columbia, } ss:

Be it remembered, that in the supreme court of the District of Columbia, at the city of Washington, in said District, at the times hereinafter mentioned, the following papers were filed and proceedings had, in the above-entitled cause, to wit:—

(Transcript of record on former appeal, being pp. 4 to 443, inclusive, of this record, is omitted in printing per stipulation of counsel. See side page 461.)

444 Mandate.

Filed April 22, 1904.

UNITED STATES OF AMERICA, ss:

[SEAL.] The President of the United States of America to the honorable the justices of the supreme court of the District of Columbia, Greeting:

Whereas, lately in the supreme court of the District of Columbia, before you or some of you, in a cause between Willard M. Farrow, complainant, and The Eclipse Bicycle Company, defendant, equity No. 19,095, wherein the decree of the said supreme court entered in said cause on the 20th day of April, A. D. 1903, is in the following words, viz:

"This cause coming on to be heard upon the auditor's report and schedule, (which schedule was corrected in form, under the order of this court of the 14th instant), and the exceptions filed to said report by the defendant on February 17th, 1903; and all exceptions to each report having previously been argued by counsel for the respective parties and considered by the court, said corrected schedule, filed herein on the 15th day of April, A. D. 1903, being approved by the court, and the matter of the exceptions to the two reports of the auditor having been considered by the court, it is therefore, by the court and the authority thereof, this 20th day of April, A. D. 1903, adjudged, ordered and decreed, that all and singular the exceptions filed on behalf of the defendant to the allowance of the sum of $4,808.00 under the first report, and to the sum of $12,297.20 under the second report, are overruled by the court; and the said corrected schedule, allowing the sum of $17,105.20 against the defendant and the said report incorporating the same, are hereby ratified and confirmed. This decree is signed after the court had become acquainted with the affidavit this day filed on behalf of the defendant.

445 "And it is further adjudged, ordered and decreed, that the complainant recover against the defendant his costs in and about this suit.

A. B. HAGNER,
Asso. Justice."

as by the inspection of the transcript of the record of the said supreme court which was brought into the Court of Appeals of the District of Columbia by virtue of an appeal, agreeably to the act of Congress in such case made and provided, fully and at large appears.

And whereas, in the present term of April, in the year of our Lord one thousand nine hundred and four, the said cause came on to be heard before the said Court of Appeals on the said transcript of record, and was argued by counsel:

On consideration whereof, it is now here ordered, adjudged and decreed by this court that the decree of the said supreme court in this cause be, and the same is hereby modified by the insertion of the words following, after the part confirming and ratifying the auditor's report—"And it is further ordered, adjudged and decreed that the complainant do recover from the defendant the said sum of $17,105.20, with interest on $2082.50 thereof from December 15, 1899; and on $3682.80 thereof from March 15, 1900; and on $5329.40 thereof from June 15, 1900; and on $1202.50 thereof from July 15, 1900." And thus modified it will be affirmed with costs, and that the said complainant recover against the said defendant The Eclipse Bicycle Company for his costs herein expended and have execution therefor.

APRIL 5, 1904.

You therefore, are hereby commanded that such execution and further proceedings be had in said cause, in conformity with the opinion and decree of this court as according to right and justice and the laws of the United States ought to be had, the said appeal notwithstanding.

446 Witness, the Honorable Richard H. Alvey, Chief Justice of said Court of Appeals, the 22d day of April, in the year of our Lord one thousand nine hundred and four.

HENRY W. HODGES,
Clerk of the Court of Appeals of the District of Columbia.

Costs of Complainant.

Clerk	$
Attorney	$ Paid.
Printing record	

Decree.

Filed May 4, 1904.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW, Complainant,
vs.
THE ECLIPSE BICYCLE COMPANY, Defendant. } Equity. No. 19095.

In accordance with the mandate of the Court of Appeals of the District of Columbia filed in the above entitled cause on the 22nd day of April, A. D. 1904, it is by the court this 4th day of May, A. D. 1904, ordered, adjudged and decreed that the decree entered in this cause on the 20th day of April, A. D. 1903, be, and the same hereby is modified so as to read as follows, viz: This cause coming

on to be heard upon the auditor's report and schedule (which schedule was corrected in form, under the order of this court of the 14th instant), and the exceptions filed to said report by the defendant on February 17th, 1903; and all exceptions to each report having been previously argued by counsel for the respective parties and considered by the court, said corrected schedule filed herein on the 15th day of April, A. D. 1903, being approved by the court, and the matter of the exceptions to the two reports of the auditor having been considered by the court, it is therefore, by the court and authority thereof, this 20th day of April, A. D. 1903, adjudged, ordered
447 and decreed, that all and singular the exceptions filed on behalf of the defendant to the allowance of the sum of $4808.00 under the first report, and to the sum of $12,297.20 under the second report, are overruled by the court; and the said corrected schedule, allowing the sum of $17,105.20 against the defendant and the said report incorporating the same, are hereby ratified and confirmed.

And it is further ordered, adjudged and decreed that the complainant do recover from the defendant the said sum of $17,105.20, with interest on $2082.50 thereof from December 15th, 1899; and on $3682.80 thereof from March 15th, 1900; and on $5329.40 thereof from June 15th, 1900; and on $1202.50 thereof from July 15th, 1900; and that the complainant recover against the defendant his costs in and about this suit.

ASHLEY M. GOULD, Justice.

Appeal to Court of Appeals.

Filed May 4, 1901.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
ECLIPSE BICYCLE COMPANY. } In Equity. No. 19095.

Now comes the defendant The Eclipse Bicycle Co. and notes an appeal from the decree of the supreme court of the District of Columbia entered in this cause this 4th day of May, A. D. 1904—to the Court of Appeals.

A. S. WORTHINGTON,
D. S. MACKALL,
Solicitors for the Defendant.

448 Order Fixing Penalty of Appeal Bond.

Filed May 10, 1904.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
ECLIPSE BICYCLE CO. } Equity. No. 19095.

Upon motion of the defendant it is this 10th day of May, A. D. 1904, ordered that the penalty of the appeal bond to be given by the defendant, in pursuance of its appeal from the decree entered in this cause on to wit the 4th day of May, A. D. 1904, if for costs only shall be two hundred and fifty dollars, provided that the sum of $250.00 may be deposited with the clerk in lieu of such appeal bond; and if to operate as a supersedeas the penalty of such bond shall be forty thousand dollars.

By the court:

ASHLEY M. GOULD, Justice.

Order for Citation.

Filed May 6, 1904.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
THE ECLIPSE BICYCLE CO. } Equity. No. 19095.

The clerk will please issue a citation to the complainant in pursuance of the defendant's appeal to the Court of Appeals in the above entitled cause from the decree entered in said cause on to wit, the 4th day of May, A. D. 1904.

D. S. MACKALL,
Of Counsel for Defendant.

449 In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
THE ECLIPSE BICYCLE COMPANY. } No. 19095. In Equity.

The President of the United States to Willard M. Farrow, Greeting:

You are hereby cited and admonished to be and appear at a Court of Appeals of the District of Columbia, upon the docketing the cause

therein, under and as directed by the rules of said court, pursuant to an appeal filed in the supreme court of the District of Columbia, on the 4th day of May, 1904, wherein The Eclipse Bicycle Company, is appellant, and you are appellee, to show cause, if any there be, why the decree rendered against the said appellant, should not be corrected, and why speedy justice should not be done to the parties in that behalf.

Seal Supreme Court, D. C.

Witness the Honorable Harry M. Clabaugh, chief justice of the supreme court of the District of Columbia, this sixth day of May in the year of our Lord one thousand nine hundred and four.

JOHN R. YOUNG, Clerk.

Service of the above citation accepted this 10th day of May, 1904.

JOHN C. GITTINGS,
Attorney for Appellee.

[Endorsed:] No. 19095. Equity. Willard M. Farrow *vs.* Eclipse Bicycle Co. Citation. Issued May 6th, 1904 Ret'd May 10, 1904. (Service accepted) Served cop- of the within citation on —— ——. —— ——, marshal. D. S. Mackall, attorney for appellant.

450 In the Supreme Court of the District of Columbia.

Filed May 18, 1904.

WILLARD M. FARROW *vs.* ECLIPSE BICYCLE COMPANY. } No. 19095. In Equity.

Know all men by these presents, that we, The Eclipse Bicycle Company, as principal, and the United States Fidelity & Guaranty Co., a corporation of the State of Maryland, as surety, are held and firmly bound unto the above named Willard M. Farrow in the full sum of two hundred and fifty dollars to be paid to the said Willard M. Farrow his executors, administrators, successors, or assigns. To which payment, well and truly to be made, we bind ourselves, and each of us, jointly and severally, and our and each of our heirs, executors, administrators, successors, and assigns, firmly by these presents.

Sealed with our seals, and dated this 18th day of May, in the year of our Lord one thousand nine hundred and four.

Whereas the above-named Eclipse Bicycle Company has prosecuted an appeal to the Court of Appeals of the District of Columbia, to reverse the decree rendered in the above suit by the said supreme court of the District of Columbia:

Now, therefore, the condition of this obligation is such, that if the above-named Eclipse Bicycle Company shall pay and satisfy all costs incident to said appeal, then this obligation shall be void; otherwise, the same shall be and remain in full force and virtue.

ECLIPSE BICYCLE CO.,
By D. L. WHITTIER, Treas. [SEAL.]
THE UNITED STATES FIDELITY & GUARANTY CO.,
By J. S. SWORMSTEDT, [SEAL.]
Attorney in Fact.

Sealed and delivered in presence of—
RALPH D. WEBSTER.
A. P. MORROW.

Approved the 18th day of May, 1904. After considering the objections filed as to the capacity of the principal to execute same and its manner of execution.

ASHLEY M. GOULD,
Justice S. C. D. C.

451 Objections to Approval of Appeal Bond.

Filed May 18, 1904.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW, Complainant,
vs.
ECLIPSE BICYCLE COMPANY, Defendant. } No. 19095.

Now comes the complainant, Willard M. Farrow, by and through his solicitor, and objects to the approval of the appeal bond filed in this cause, upon the following grounds, viz:—

1. That the record in this cause conclusively established the fact that the Eclipse Bicycle Company is no longer in existence, having voluntarily dissolved more than three years prior to the filing of the bond in this cause, which purports on its face to be an act of an existing corporation.

2. That the bond filed in the cause shows on its face that it was executed by an officer of a corporation who has no authority in law to execute the bond.

JOHN C. GITTINGS,
Solicitor for Complainant.

452 Agreement as to Transcript.

Filed May 25, 1904.

In the Supreme Court of the District of Columbia.

WILLARD M. FARROW
vs.
ECLIPSE BICYCLE COMPANY. } Equity. No. 19095.

It is hereby stipulated and agreed between counsel for the respective parties that the following shall constitute the transcript of record for the purpose of the appeal from the decree of May 4, 1904, the printed record in this case on the former appeal No. 1351, supplemented by the following:

1. Mandate of the Court or Appeals filed April 22d, 1904.
2. Decree in pursuance of said mandate filed May 4, 1904.
3. Appeal therefrom filed May 4, 1904.
4. Order fixing penalty of appeal bond.
5. Citation, order for.
6. Citation and acceptance thereof.
7. Appeal bond and approval thereof.
8. Objections to approval of bond.

It is understood and agreed that this stipulation shall not be taken and considered in any manner as a recognition on the part of the complainant, Willard M. Farrow, or his counsel, of the right of the defendant to prosecute this appeal and shall have no other force or effect, except only that of designating what shall constitute the transcript of record as aforesaid.

D. S. MACKALL,
Sol'r for Def't.

JOHN C. GITTINGS,
Sol'r for Compl't.

May 24th/04.

453 Supreme Court of the District of Columbia.

UNITED STATES OF AMERICA,
District of Columbia, } ss:

I, John R. Young, clerk of the supreme court of the District of Columbia, hereby certify the foregoing pages, numbered from 1 to 10, inclusive, and the former transcript of record, No. 1351 on the docket of the Court of Appeals of the District of Columbia, in this case, transmitted herewith, to be a true and correct transcript of the record, as per stipulation of counsel herein filed, copy of which is made part of this transcript, in cause No. 19095, in equity, wherein

Willard M. Farrow is complainant, and Eclipse Bicycle Company, is defendants, as the same remains upon the files and of record in said court.

Seal of the Supreme Court of the District of Columbia.

In testimony whereof, I hereunto subscribe my name and affix the seal of said court, at the city of Washington, in said District, this 31st day of May, A. D. 1904.

JOHN R. YOUNG, Clerk.

454 [Endorsed:] District of Columbia supreme court. No. 1434. Eclipse Bicycle Company, appellant, *vs.* Willard M. Farrow. Court of Appeals, District of Columbia. Filed Jan. 2, 1904. Henry W. Hodges, clerk.

455 FRIDAY, December 9th, A. D. 1904.

ECLIPSE BICYCLE COMPANY, Appellant,
vs.
WILLARD M. FARROW. } No. 1434.

The motion to affirm the decree in the above-entitled cause was submitted to the consideration of the court by Mr. J. C. Gittings, attorney for the appellee, in support of motion.

ECLIPSE BICYCLE COMPANY, Appellant,
vs.
WILLARD M. FARROW. } No. 1434.

Opinion.

(Mr. Justice Morris delivered the opinion of the court:)

This cause being now before us for final disposition, and the decree appealed from being in accordance with the mandate of this court, said decree is affirmed with costs.

456 ECLIPSE BICYCLE COMPANY, Appellant,
vs.
WILLARD M. FARROW. } No. 1434, October Term, 1904.

Appeal from the Supreme Court of the District of Columbia.

This cause came on to be heard on the transcript of the record from the supreme court of the District of Columbia, and on a motion to affirm, which was argued by counsel. On consideration whereof, it is now here ordered, adjudged, and decreed by this court that the decree of the said supreme court in this cause be, and the same is hereby, affirmed with costs.

Per MR. JUSTICE MORRIS.

December 9, 1904.

TUESDAY, March 7th, A. D. 1905.

ECLIPSE BICYCLE COMPANY, Appellant,
vs.
WILLARD M. FARROW. } No. 1434.

On motion of Mr. D. S. Mackall, of counsel for the appellant in the above entitled cause, it is ordered by the court that said appellant be allowed an appeal to the Supreme Court of the United States on giving bond for costs in the sum of three hundred dollars.

457 Court of Appeals, District of Columbia.

ECLIPSE BICYCLE COMPANY, Appellant,
vs.
WILLARD M. FARROW. } No. 1434.

Now comes the appellee, Willard M. Farrow, by and through his solicitor, and objects to the approval of the appeal bond filed in this cause upon the following grounds, viz.

1. That the record in this cause conclusively establishes the fact, that, the Eclipse Bicycle Company is no longer in existence, having voluntarily dissolved more than three years prior to the filing of the bond in this cause, which purports on its face to be an act of an existing corporation.

2. That the bond filed in this cause shows on its face that it was executed by an officer of a corporation who has no authority in law to execute a bond.

JOHN C. GITTINGS,
Solicitor for Appellee.

(Indorsed:) No. 1434. Eclipse Bicycle Company, appellant, vs. Willard M. Farrow. Appellee's objection to approval of appeal bond. Court of Appeals, District of Columbia. Filed Mar. 16, 1905. Henry W. Hodges, clerk.

458 (Bond on Appeal.)

Know all men by these presents, that we, Eclipse Bicycle Company, a corporation, as principal, and Fidelity and Deposit Company of Maryland, a corporation of ——, as suret-, are held and firmly bound unto Willard M. Farrow in the full and just sum of three hundred and no/100 dollars, to be paid to the said Willard M. Farrow his certain attorney, executors, administrators, or assigns; to which payment, well and truly to be made, we bind ourselves, our heirs, executors, and administrators, jointly and severally, by these presents.

Sealed with our seals and dated this 8th day of March, in the year of our Lord one thousand nine hundred and five

Whereas, lately at a Court of Appeals in the District of Columbia in a suit depending in said court, between Eclipse Bicycle Company, appellant and Willard M. Farrow, appellee a decree was rendered against the said Eclipse Bicycle Company and the said Eclipse Bicycle Company having prayed and obtained an appeal to the Supreme Court of the United States to reverse the decree in the aforesaid suit, and a citation directed to the said Willard M. Farrow citing and admonishing him to be and appear at a Supreme Court of the United States, at Washington, within thirty days from the date thereof;

Now, the condition of the above obligation is such, that if the said Eclipse Bicycle Company shall prosecute said appeal to effect, and answer all costs if it fail to make its plea good, then the above obligation to be void; else to remain in full force and virtue.

[Seal of Eclipse Bicycle Co.]

ECLIPSE BICYCLE CO., [SEAL.]
By D. L. WHITTIER, Treas'r. [SEAL.]

[Seal of Fidelity & Deposit Company of Maryland.]

FIDELITY AND DEPOSIT COMPANY OF MARYLAND, [SEAL.]
By J. SPRIGG POOLE, Attorney in Fact. [SEAL.]

Sealed and delivered in presence of—
LEONARD S. WHITTIER.
A. M. SNYDER.

Approved by—
SETH SHEPARD,
Chief Justice Court of Appeals
of the District of Columbia.

[Endorsed:] No. 1434. Eclipse Bicycle Company appellant vs. Willard M. Farrow. Bond on appeal to Supreme Court U. S. Court of Appeals District of Columbia Filed Mar. 16, 1905 Henry W. Hodges, clerk.

459 UNITED STATES OF AMERICA, ss:

To Willard M. Farrow, Greeting:

You are hereby cited and admonished to be and appear at a Supreme Court of the United States, at Washington, within 30 days from the date hereof, pursuant to an order allowing an appeal, filed in the clerk's office of the Court of Appeals of the District of Columbia, wherein Eclipse Bicycle Company — appellant and you are appellee, to show cause, if any there be, why the decree rendered against the appellant, should not be corrected, and why speedy justice should not be done to the parties in that behalf.

Witness, the Honorable Seth Shepard, Chief Justice of the Court of Appeals of the District of Columbia, this 16th day of March, in the year of our Lord one thousand nine hundred and five.

SETH SHEPARD,
— Justice of the Court of Appeals of the District of Columbia.

Service is hereby accepted.
JOHN C. GITTINGS,
Att'y for Appellee.

Mar. 16th, '05.

[Endorsed:] Court of Appeals, District of Columbia. Filed Mar. 16, 1905. Henry W. Hodges, clerk.

460 Court of Appeals of the District of Columbia.

I, Henry W. Hodges, clerk of the Court of Appeals of the District of Columbia, do hereby certify that the foregoing printed and typewritten pages numbered from 1 to 459, inclusive, contain a true copy of the transcript of record and proceedings of said Court of Appeals in the case of Eclipse Bicycle Company, appellant, *vs.* Willard M. Farrow, No. 1434, January term, 1905, as the same remain upon the files and records of said Court of Appeals.

Seal Court of Appeals, District of Columbia.

In testimony whereof I hereunto subscribe my name and affix the seal of said Court of Appeals, at the city of Washington, this 25th day of March, A. D. 1905.

HENRY W. HODGES,
Clerk of the Court of Appeals of the District of Columbia.

461 In the Supreme Court of the United States.

ECLIPSE BICYCLE COMPANY, Appellant,
vs.
WILLARD M. FARROW, Appellee.
} No. 591.

It is hereby stipulated and agreed that for the purposes of the appeal in this case it shall be necessary to print only so much of the transcript of record as is not embodied in the transcript of record in the case between the same parties pending in this court and being number 283, October term 1904.

It is hereby expressly understood and agreed between the parties that the appellee, in signing this stipulation, does not waive any of the questions raised as to the legality of this appeal or any other

rights contained in the record in the two cases, nor does he recognize that there is such a corporation in existence as The Eclipse Bicycle Company, the alleged appellant.

A. S. WORTHINGTON,
D. S. MACKALL,
Solicitors for the Appellant.
JOHN C. GITTINGS,
Solicitor for the Appellee.

462 [Endorsed:] File No. 19,691. Supreme Court U. S. October term, 1904. Term No. 591. Eclipse Bicycle Co., app't, vs. Willard M. Farrow. Stipulation to print parts of the record not already printed in record in case No. 283 Filed April 6, 1905.

Endorsed on cover: File No. 19,691. District of Columbia Court of Appeals. Term No. 591. Eclipse Bicycle Company, appellant, vs. Willard M. Farrow. Filed March 29th, 1905. File No. 19,691.